



ACTLA
Alberta Civil Trial Lawyers Association

Submission to the Alberta Automobile Insurance Rate Board
2023 Annual Review
July 27, 2023



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ACTLA

Alberta Civil Trial Lawyers Association

Executive summary

The Alberta Civil Trial Lawyers Association (ACTLA) appreciates the opportunity to participate in the Alberta Automobile Insurance Rate Board's (AIRB) 2023 Annual review process. ACTLA comprises legal professionals and represents thousands of Albertans across the province. As civil trial lawyers, we are committed to advancing a strong justice system that protects the civil rights of Albertans. We advocate and work with government in a range of areas including auto insurance, administration of justice issues, and other topics such as legal aid funding.

ACTLA has retained Mr. Craig A. Allen, an independent consulting actuary with extensive experience in the Canadian insurance industry, to conduct a review of the draft Oliver Wyman report and associated historical data. Our submission is comprised of Mr. Allen's technical analysis and this summarizing foreword which provides additional commentary on Mr. Allen's findings from an ACTLA perspective.

Affordability is a key issue facing Alberta families. Albertans have seen dramatic increases to their auto insurance premiums since 2018. Along with inflation and rising energy costs, large premium increases for auto insurance have been a major strain on many Albertans who continue to struggle with the ongoing affordability crisis. At the same time as Albertans struggle to afford premium increases, from our analysis, auto insurance companies operating in Alberta continue to experience healthy profits in excess of AIRB benchmarks.

For the past three years in testimony to the AIRB, ACTLA has correctly predicted what has occurred in the auto insurance market and advised the rate board not to permit insurance rate increases. We have advised in previous submissions that the effect of increased premiums in the face of leveling bodily injury claims and other costs, and significantly reduced total claim costs due to COVID-19 would either lead to decreased premiums for consumers, or excess profits for insurance companies. Experience throughout the last number of annual and semi-annual reviews has shown the insurance industry is experiencing significant profits in the Alberta auto insurance market while most cost-drivers for the industry continue on a downward trajectory.

ACTLA believes the seven percent profit target for auto insurance companies is an appropriate benchmark. It should also be noted that profit on premiums is not the primary way insurance companies make money. Insurers hold large sums of capital from which they generate interest and investment income. The seven percent profit benchmark should account for this reality in its calculation. Since 2020, the auto insurance industry in Alberta has experienced billions in profits in excess of the seven per cent provision. In today's climate of rising costs for everything, it is not acceptable for Albertans to be paying higher premiums while insurance companies regularly exceed the profit

benchmarks established by the regulator.

With supporting actuarial data included in Mr. Allen's appended findings, ACTLA wishes to highlight the following findings for the AIRB regarding the most recent review of industry experience from Oliver Wyman:

- **Bodily injury claim costs continue their trend of stabilization and decline**

From 2015 to 2019, the loss and LAE cost per vehicle for third party liability bodily injury coverage and all coverages combined remained relatively stable, considering general inflation. However, starting in 2020, the loss and LAE cost for "moving" coverages experienced a significant decline due to the reduced vehicle traffic resulting from the COVID-19 pandemic. Additionally, with the implementation of Bill 41, the loss and LAE cost per vehicle for bodily injury coverage decreased, starting from accident year 2021. As a result, this has contributed to a further reduction in the rate of increase in bodily injury claims costs.

- **The insurance industry continues to experience significant profits**

Our analysis indicates industry is expected to achieve pre-tax profits of around \$800 million each in both 2022 and 2023, which is higher than the analysis provided by Oliver Wyman. Higher profits under the Allen estimates are due to differing projections for the value of bodily injury and direct compensation claims. These projected profits of 17.6 percent and 16.3 percent respectively surpass the benchmark profit margin of seven percent. To align with the benchmark, a reduction in premiums is anticipated for 2023.

- **Driving patterns have changed effecting accident frequency**

Until now, there has been understandable concern that the frequency of claims could return to pre-pandemic levels as the population resumes activities interrupted by pandemic-related closures. Our review indicates that changes in working and driving practices are permanent. Any projections which now continue to anticipate a full recovery to pre-pandemic claim frequency should be dismissed.

- **The observed effect of Direct Compensation for Property Damage raises significant and concerning questions**

In 2022, a notable increase in the frequency of third-party property damage coverage, including Alberta's newly implemented direct compensation system for not-at-fault accidents, has been observed. This increase has surpassed the frequency for collision coverage, which raises questions since both coverages are expected to mirror the overall rate of auto accidents in Alberta. As more than 70% of vehicles in Alberta carry optional collision coverage, the divergence in frequency rates is puzzling.

Despite the fact that the average premium rate per vehicle for collision coverage has remained unchanged since 2019, the before-tax profit margin has risen significantly from 10 percent to 29 percent. In contrast, average premium rates for basic coverages such as

bodily injury, property damage - direct compensation, accident benefits, and underinsured motorists have seen a steep 20 percent increase since 2019. Interestingly, this increase is much higher than that for collision coverage, while the pre-tax profit margin has only increased moderately from -4% to 15%. These developments warrant further examination and analysis to understand the factors contributing to these trends.

In summary, the most recent Oliver Wyman report continues to demonstrate that claim costs are stable, and in some cases, declining. Combined with the effects of increases in premiums paid by consumers, the enduring impact of COVID-19 on driving patterns, industry savings associated with Bill 41 and other Government of Alberta policies, that the auto insurance industry in Alberta continues to experience profits well in excess of the AIRB benchmark.

In consideration of the above-described trends, ACTLA recommends the following:

- **The seven percent profit target for insurance companies is appropriate if calculated with inclusion of investment income on capital**

The return on the investment on capital is not included in the seven percent profit on premium calculation. It is our position that this investment return should be included in any assessment of insurance company profits.

- **Review the effects of Direct Compensation for Property Damage**

One of the primary responsibilities of the AIRB is to safeguard the interests of consumers and to prevent unfair pricing practices. The observed effects of the Direct Compensation for Property Damage model are concerning from a consumer perspective and warrant further investigation from the regulator.

- **Recognition of Oliver Wyman's New Normal**

The AIRB consider the assessment of Oliver Wyman's "New Normal" in the consideration of any proposed rate increases.

Review of Experience, Alberta Private Passenger Automobile Insurance, as at December 31, 2022

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July 27, 2023

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As Part of their Written Submission to the Alberta Automobile Insurance Rate Board 2023 Annual Review

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I. Executive Summary

The following are the findings of the analysis.

Finding 1:

The loss and LAE cost per vehicle for third party liability bodily injury coverage and for all coverages combined have been approximately stable, when adjusted for general inflation, for the 2015 through 2019 accident years. Beginning in 2020, the loss and LAE cost for the “moving” coverages has declined sharply in response to the reduction in vehicle traffic caused by the COVID-19 pandemic. Further, Bill 41 reduced the loss and LAE cost per vehicle for bodily injury coverage, beginning in accident year 2021. The effect is to reduce further the rate of increase in bodily injury claims costs.

Finding 2:

Oliver Wyman has proposed that a “New Normal” frequency, at the level seen for accidents in the second half of 2022, may represent an appropriate expectation for frequency levels during the prospective period. This sustained frequency level, for the “moving coverages” of bodily injury, accident benefits and collision, is below the frequency level for the 2019 accident year. It also implies that the current elevated levels of profitability, at current premium levels in the industry, will persist until absorbed over a period of years by inflation in claims and expenses.

Finding 3:

I estimate a “Realized Profit Provision” (a measure defined by Oliver Wyman) of 17.6% for 2022 and 15.7% for 2023. These estimates are significantly higher than the benchmark profit margin of 7%. Oliver Wyman’s estimate of the Realized Profit Provision for 2022 is 9.0%. The primary explanation for my higher estimate in 2022 is that I estimate a lower value for claim dollars for bodily injury and direct compensation.

Finding 4:

Oliver Wyman summarizes past average rates of investment income for the industry on p. 81 of its review, and records that the rate in 2022 was 0.08%. This rate is very low, compared to prior years back to 2015. I note that the average investment income rate in 2022 is as low as it is

because of reductions in the value of existing bond holdings, in light of rises in current market interest rates in 2022. Thus, the rate is not representative of rates of investment income available for new investments made at present.

For purposes of insurance ratemaking, premium amounts brought in by a forthcoming rate program will be newly invested. Thus, the low average rates of investment income shown for 2022 would not be the current basis for the setting of auto insurance.

Finding 5:

It is noted that the frequency of third party property damage coverage, including Alberta's newly implemented direct compensation system for not at fault accidents, has increased in 2022 to a significantly higher level than the frequency for collision coverage. As both coverages would be expected to mirror the overall rate of auto accidents in Alberta (since more than 70% of vehicles in Alberta carry the optional collision coverage) the divergence in the frequency rates raises questions.

While the average premium rate per vehicle for collision coverage has not increased since 2019, the Realized Profit Provision for the coverage has increased from 10% to 29%. Meanwhile, average premium rates for the basic coverages (bodily injury, property damage - direct compensation, accident benefits, underinsured motorists) have increased by 20% since 2019 – an increase much higher than for collision - while the Realized Profit Provision has increased by no more than for collision, from -4% to 15%.

Finding 6:

The recommended benchmark percentage for total expenses was increased to 27.6%, which is increased from 27.1% in 2022 and 26.0% in 2021. Total earned premium increased by 2.9% between 2021 and 2022 and I project a further increase in earned premium of 1.5% between 2022 and 2023. The increase in the benchmark percentage, combined with the increases in premium over that period results in a compounded increase in the amount for expenses. The increased provision for expenses is a result of the benchmark, even though a proportion of expenses can be expected to be fixed with respect to premium.

II. Introduction

I have prepared this report as actuarial consultant to the Alberta Civil Trial Lawyers Association (“ACTLA”).

The report is part of ACTLA’s written submission to Alberta’s Automobile Insurance Rate Board (AIRB) for the 2023 Annual Review.

This report presents the results of my analysis of private passenger automobile insurance experience for Alberta.

III. Data Sources

I have based my analysis on data published by the General Insurance Statistical Agency (GISA) as at December 31, 2022. I have also reviewed in depth the analysis and conclusions of Oliver Wyman Limited (“Oliver Wyman”), consulting actuary to AIRB, in its 2023 Annual Review of Industry Experience – Preliminary Report as of December 31, 2022, dated June 12, 2023 (“Oliver Wyman 2023 Annual Review”).

This report makes reference to my report to AIRB dated July 27, 2022 that was included with ACTLA’s submission to the AIRB 2022 Annual Review.

IV. Identification

I am an independent consulting actuary based in New York, NY. I am a fellow of the Canadian Institute of Actuaries and of the Casualty Actuarial Society, and I have provided actuarial services in Canada and the U.S. for 36 years.

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July 27, 2023

V. Commentary

Below are the items of comment in this report.

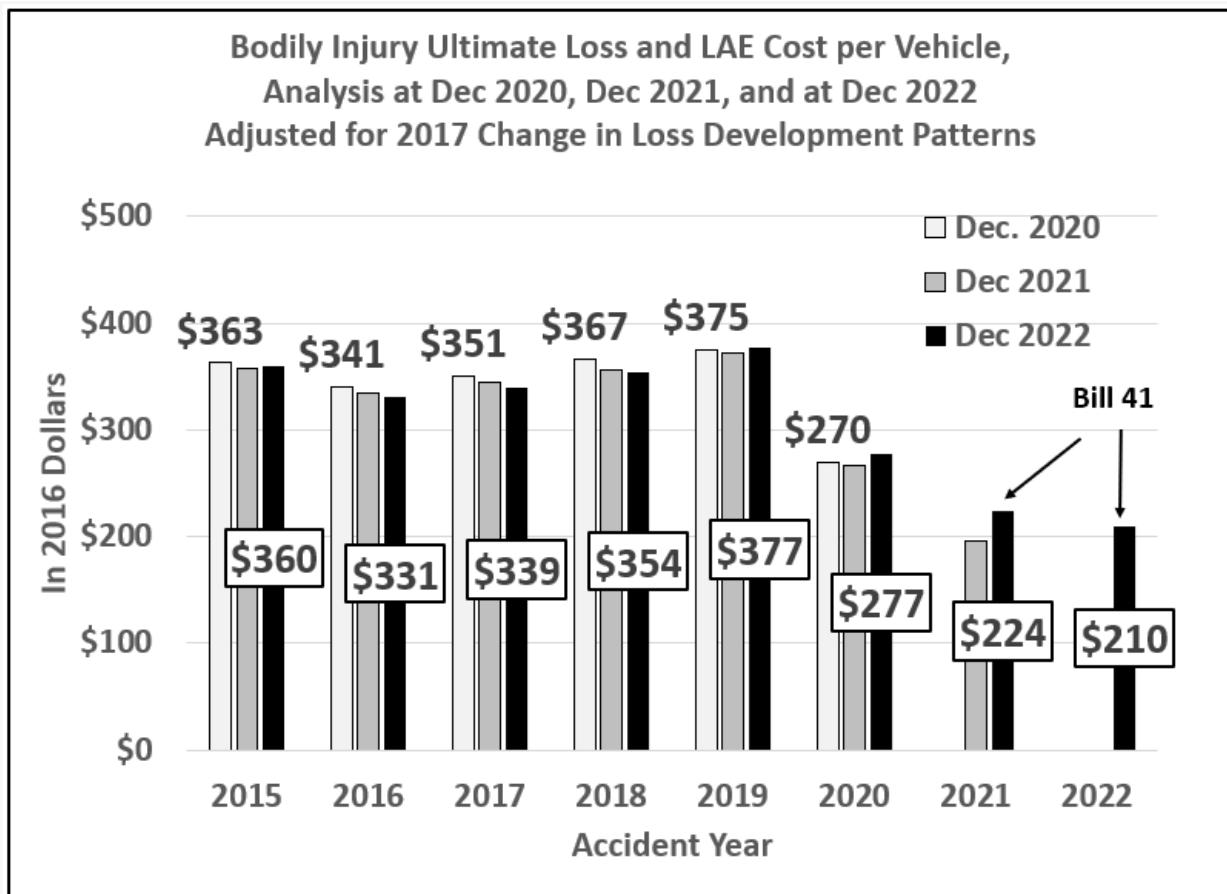
A. Trends in Loss and LAE Cost per Vehicle Since 2015

Trends in loss and LAE cost per vehicle (“loss cost”) are a major factor in the sustained affordability and stability of the auto insurance market.

1. Loss and LAE Cost per Vehicle for Bodily Injury

The results of my analysis of loss cost for bodily injury are illustrated below in Figure 1.

Figure 1 – Projected Inflation-Adjusted Bodily Injury Loss and LAE per Vehicle



Source: Appendix Table A 2.5, Column [7]

For accident years 2015 through 2019, these projections show approximate stability in inflation-adjusted loss cost. The subsequent accident years show a significant and notable reduction in these costs, occurring at the same time as the onset of the COVID-19 pandemic in 2020 (with the rapid reduction at that time in traffic volumes), and the reforms of bodily injury compensation beginning in 2021 brought about by Bill 41.

Figure 1 shows that the loss cost projections are largely consistent with those I made for the 2022 and 2021 Annual Reviews, especially for the mature accident years 2015 through 2019.

Benchmark Trend Rate

Since 2015, the AIRB Benchmark trend rate for bodily injury (BI) coverage has projected annual increases in loss cost that are significantly higher than corresponding annual increases in the Alberta Consumer Price Index (CPI). The Oliver Wyman 2023 Annual Review continues to recommend a Benchmark trend rate in excess of increases in the CPI for BI coverage.

Table 1 below presents the Benchmark trend rates for bodily injury loss cost, and compares the rates to corresponding general inflation amounts. A sharp increase in general inflation in 2021 and 2022 temporarily caused the Benchmark trend rate to be below the increase in the CPI in those years. However, in the most recent period, general inflation has fallen back to its historic levels, and well below the Benchmark trend.

The in-depth analysis below, in Section VI, will provide detailed analysis in support of the rate of increase in loss cost seen above in Figure 1.

Table 1: Benchmark Trend Rates for Bodily Injury, Compared to Increase in Consumer Price Index for Alberta

Effective Date	Past Trend Rate	Future Trend Rate	12-Month Increase in CPI ¹
April 1, 2015	+2.0%	+2.0%	1.7%
Oct. 1, 2015	+4.5%	+4.5%	1.5%
April 1, 2016	+6.0%	+6.0%	1.3%
Oct. 1, 2016	+6.0%	+6.0%	1.0%
April 1, 2017	-1.0%	+7.5%	0.4%
Oct. 1, 2017	+7.5%	+7.5%	2.0%
April 1, 2018	+7.5%	+7.5%	2.8%
Oct. 1, 2018	+8.5%	+7.5%	2.1%
April 1, 2019	+8.5%	+7.5%	1.4%
Oct. 1, 2019	+8.5%	+7.5%	2.3%
April 1, 2020	+8.0%	+7.0%	1.6%
Oct. 1, 2020	+7.0%	+6.0%	0.8%
April 1, 2021	+7.0%	+5.0%	2.7%
Oct. 1, 2021	+7.0%	+5.0%	4.8%
April 1, 2022	+6.5%	+5.0%	8.4%
Oct. 1, 2022	+7.0%	+5.0%	6.0%
April 1, 2023	+7.0%	+5.0%	1.9%
Oliver Wyman 2023 Recommendation	+8.0%	+5.0%	1.9%

Table 2: Cumulative Increase Over the Period 2015 through 2023

	Past Trend Rate of +8.0%, Oliver Wyman 2023 Annual Review	Increase in CPI, June 2015 to June 2023
Accumulated Over 8 Years 2015 to 2023	+85.1%	+22.2%

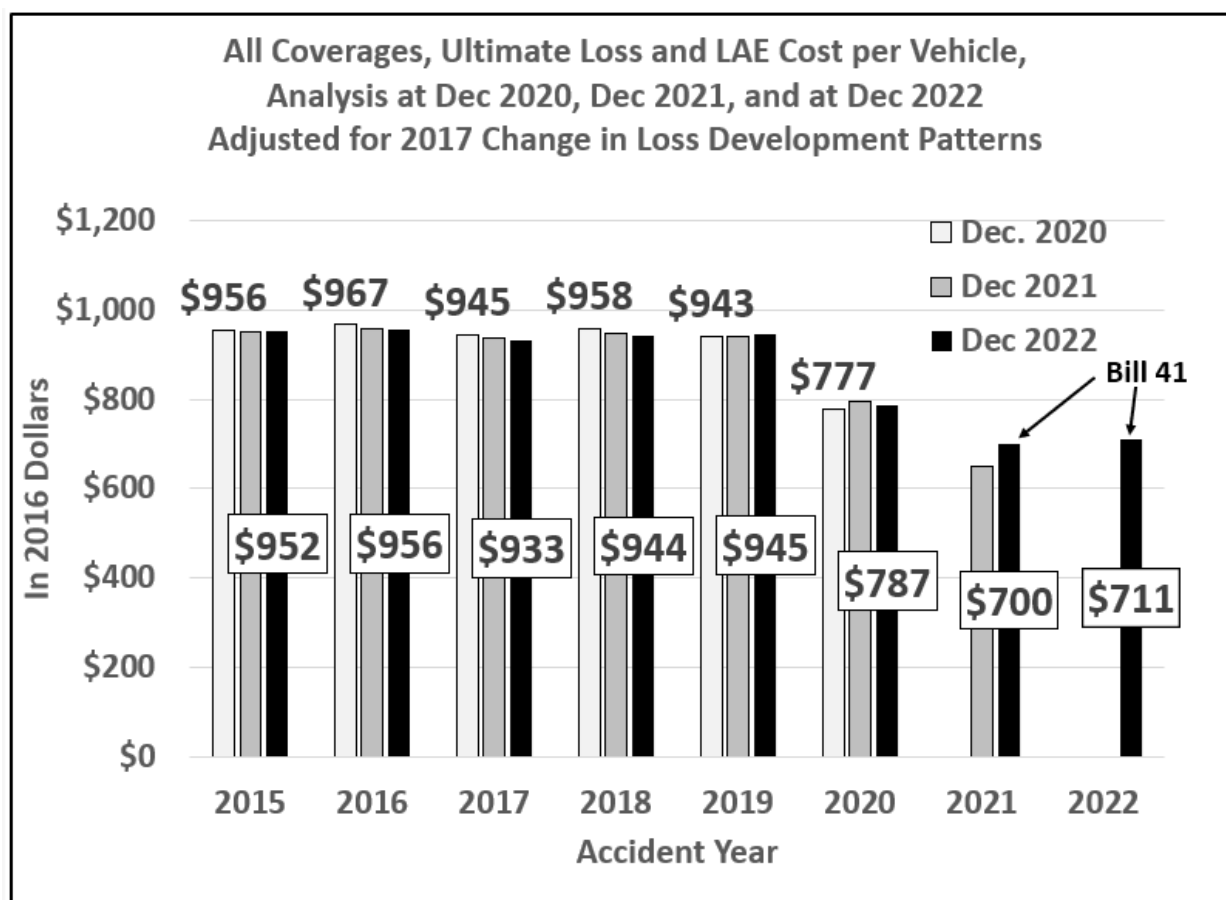
¹ For the twelve months ending 3 months after effective date (e.g. for Effective Date Oct. 1, 2020, the CPI increase over the period Jan. 1, 2020 to Dec. 31, 2020)

2. Loss and LAE Cost per Vehicle for All Coverages Combined

Figure 2 below illustrates my projection of annual changes in loss cost for all coverages combined.

As with bodily injury coverage, loss cost is stable over the accident years 2015 through 2019, followed by a decline coinciding with the COVID-19 pandemic and the introduction of Bill 41 later that year. In addition, direct compensation for vehicle damage where the driver is not at fault was introduced in 2022.

Figure 2 – Projected Inflation-Adjusted All-Coverage Loss and LAE Cost per Vehicle



Source: Appendix Table A 2.5, Column [8]

B. The Emergence of a “New Normal” Loss Cost

1. New Normal Frequency

Oliver Wyman has proposed that a “New Normal” frequency, at the level seen for accidents in the second half of 2022, may represent an appropriate expectation for frequency levels during the prospective period.² This sustained frequency level, for the “moving coverages” of bodily injury, accident benefits and collision, is below the frequency level for the 2019 accident year. Table 3 shows the adjustments proposed by Oliver Wyman.

Table 3: Percentage Changes in Frequency in the New Normal

	Bodily Injury	Property Damage	Accident Benefits	Collision
Percentage Change in Frequency Between 2019 Level and New Normal	-24.6%	+14.4%	-6.6%	-40.9%

Source: Oliver Wyman 2023 Annual Review, pp. 88-89

Up to this point, there has been understandable concern that the frequency of claims might recover to the pre-pandemic level, as the population re-engages in its activities that were interrupted by the various closures during the pandemic. Further, there has been concern that such a recovery to that level of claims would take place at an unexpected time.

Oliver Wyman’s proposal of the New Normal frequency adjustments suggests greater confidence that such a recovery to the pre-pandemic level of claim frequency is not likely. Permanent changes in practices of working and driving, the continuation of favorable frequency trends, and the implementation of Bill 41 have combined to create this impact.

That the frequency level in late 2022 represents a steady state suggests that levels of insurer profitability, at current premium levels, will be sustained until they are absorbed over a period of years by inflation in claims and expenses.

² Oliver Wyman Annual Review 2023, p. 87

2. New Normal Loss Cost

The Oliver Wyman New Normal reduction is based on frequency only. For bodily injury, Bill 41 is also expected to have an impact on severity.

Table 17 in Section VI.G below estimates the impact of Bill 41 on bodily injury severity as 11.8%. Thus, the combined impact on frequency and severity of Bill 41 on bodily injury loss cost is 33.5%.

Table 4: Percentage Changes in Loss Cost in the New Normal

	Bodily Injury	Property Damage	Accident Benefits	Collision
Percentage Change in Loss Cost Between 2019 Level and New Normal	-33.5%	+14.4%	-6.6%	-40.9%

Source: Oliver Wyman 2023 Annual Review, pp. 88-89, and Table 17, Section VI.G

C. Projected Pre-Tax Profit in 2022 and 2023

Using the method developed by J.S. Cheng and Partners, Inc. in its 2007 analysis of Alberta auto insurance reform, Table 5 below presents before-tax profits for the Alberta private passenger auto insurance industry by year.

Table 5: Pre-Tax Profits Earned by the Alberta Private Passenger Auto Insurance Industry, 2011 through 2023

Year	Before-Tax Profits
Average Annual for 2011 to 2018	\$109.5 million
2019	\$202.2 million
2020	\$916.6 million
2021	\$1.276 billion
2022	\$803 million
2023	\$806 million

It can be seen that pre-tax profits increased dramatically at the beginning of the pandemic in early 2020, as the initial reduction in the volume of automobile traffic reduced the number of accidents.³ Further, with Oliver Wyman suggesting the emergence of a New Normal level of

³ See Alberta Traffic Collision Statistics 2020, Published by the Alberta Transportation and Economic Corridors, January 2023.

claim frequency beginning in the second half of 2022, the pre-tax profit level of approximately \$800 million appears to be established as the level of profits for the industry, until inflation brings about increases in claims and expenses, or in the absence of a reduction in premium.

Oliver Wyman has introduced a measure of profits for the industry referred to as “Realized Profit Provision.” This measure gauges the extent to which the industry’s profits meets the benchmark profit margin of 7% of premium.

Table 6 shows that for the years after 2019, the realized profit provision has exceeded the benchmark profit level of 7% by a wide margin.

Table 6: Realized Profit Provision, as a Percent of Premium, by Year,

Year	Realized Profit Provision, as Percentage of Premium
2019	2.1%
2020	19.3%
2021	26.9%
2022	17.6%
2023	15.7%

Table A 9.6 in the Appendix illustrates that an average reduction in premium of \$360 per household in Alberta would reduce the Realized Profit Provision to the 7% margin permitted under the benchmark for rate filings.

D. Past Investment Return for the Industry, in 2022

Page 81 of the Oliver Wyman 2023 Annual Review provides a table of average annual rates of investment income earned by insurers in the industry on their investment portfolios. Table 7 below shows the rates of income.

The rate for 2022 is very low, compared to the rates for other years. However, this drop in the rate does not reflect the available rates of return for new investments. Rather, it reflects the adjustments made in the market value of existing investments under the rise in market interest rates seen in 2022.

Table 7: Industry Average Investment Income Rate, 2015 – 2022

Year	Industry Average Investment Income Rate
2015	3.31%
2016	2.78%
2017	3.69%
2018	2.24%
2019	4.23%
2020	4.17%
2021	2.71%
2022	0.08%

Source: Oliver Wyman Annual Review 2023, p. 81

For purposes of insurance ratemaking, premium amounts brought in under a forthcoming rate program will be newly invested. Thus, the low average rates of investment income shown for 2022 would not be the current basis for the setting of auto insurance.

E. The Relative Frequency of Property Damage-Direct Compensation Coverage and Collision Coverage

In 2022, Alberta implemented direct compensation coverage, to compensate not-at-fault drivers for damage to their vehicles. Previously, this coverage was provided by third-party property damage coverage.

As reported in Table 10 on p. 31 of the Oliver Wyman 2023 Annual Review, the loss cost and frequency for the property damage-direct compensation coverage has increased markedly over the 2021 level for property damage. The loss cost is reported at \$203.32, compared to \$132.69 in 2021 (and \$175.56 in 2019), and the frequency is reported at 26.52 claims per 1,000 vehicles, compared to 20.15 in 2021 (and 28.70 in 2019). Indeed, the loss cost is reported to exceed the pre-pandemic level reported for 2019, and the frequency is approaching the 2019 level.

I have made a lower projection of the 2022 loss cost and frequency for PDDC, as shown in Appendix Table A 2.2 and Table A 2.3. This approach is to separate the third party property damage claims remaining under the PD coverage (i.e. for damage to other than vehicles) from the direct compensation claims. And then to apply development factors from the long-established PDDC system in New Brunswick to the respective PD and DC amounts.

As shown below in Table 8, the result of this adjustment, combined with restating the loss cost in 2016 dollars, mutes somewhat the uptick in frequency and loss cost, though the pattern remains that both the frequency and loss cost are approaching pre-pandemic levels.

Table 8: Frequency per 1,000 Vehicles and Loss and LAE Cost per Vehicle, Property Damage-Direct Compensation, Collision, Bodily Injury

Accident Year	Property Damage – Direct Compensation		Collision		Bodily Injury	
	Frequency per 1000 Vehicles	Loss and LAE Cost per Vehicle, 2016 Dollars	Frequency per 1000 Vehicles	Loss and LAE Cost per Vehicle, 2016 Dollars	Frequency per 1000 Vehicles	Loss and LAE Cost per Vehicle, 2016 Dollars
2015	29.46	\$170	40.78	\$188	6.38	\$360
2016	30.76	\$157	39.39	\$182	6.28	\$331
2017	30.25	\$171	42.08	\$200	6.56	\$339
2018	28.70	\$169	43.14	\$201	6.37	\$354
2019	19.42	\$161	42.26	\$190	6.46	\$377
2020	20.15	\$108	27.64	\$127	4.32	\$277
2021	25.30	\$120	26.59	\$133	4.75	\$224
2022	29.46	\$149	24.02	\$124	4.53	\$210
% Change between 2019 and 2022	-12%	-7%	-43%	-35%	-30%	-44%

Source: Appendix Table A 2.6 and A 2.7

Also in Table 8, it can be seen that the frequency before the pandemic was higher for collision than for PD (perhaps reflecting the effect of adverse selection, where those with greater value vehicles, more susceptible to damage, are more likely to purchase the optional coverage).

Timed with the onset of the pandemic and the change to direct compensation, the frequency for collision has fallen below that of PDDC, possibly indicating that claims involving physical damage to the vehicle are being shifted to the PDDC coverage away from the optional collision coverage.

The effect of this change on pre-tax profits by coverage can be seen in the Realized Profit Provision results in Table 9. There it can be seen that the profitability of collision coverage has grown rapidly and remained high, even with no net increase in premium rates since 2019.

Table 9: Realized Profit Provision by Coverage

Year	Basic Coverage (BI, PDDC, AB, UM)	Collision	All Coverages
2019	-3.9%	10.2%	2.1%
2020	24.2%	32.1%	19.3%
2021	30.1%	26.3%	26.9%
2022	19.5%	21.0%	17.6%
2023	15.1%	28.5%	15.7%
% Increase in Premium per Vehicle, between 2019.2 and 2022.2	+20%	-2%	+16%

Source: Appendix Tables A 9.1, A 9.3, A 9.4, and A 9.5

F. Increase in the Benchmark Provision for General Expenses

Oliver Wyman has increased the recommended benchmark percentage for total expenses to 27.6%, which is increased from 27.1% in 2022 and 26.0% in 2021.

At the same time, total earned premium has increased by 2.9% between 2021 and 2022 and I project a further increase in earned premium of 1.5% between 2022 and 2023.

The increase in the benchmark percentage, combined with the increases in premium over that period results in a compounded increase in the provision for expenses. The increased expense provision is a result of the level of the benchmark, even though a proportion of expenses can be expected to be fixed with respect to premium.

Table 10 below illustrates the impact of the dual increases in the expense percentage and premium.

Table 10: Total Expenses Implied by the Recommended Benchmark Expense Percentage

Year	Benchmark Expense Percentage	Total Premium (000s)	Total Expenses (000s)	Expenses per Vehicle in 2016 Dollars
2019	26.7%	\$3,782,861	\$1,010,024	\$344
2020	26.0%	\$4,067,651	\$1,057,589	\$355
2021	26.0%	\$4,367,273	\$1,135,491	\$367
2022	27.1%	\$4,494,690	\$1,218,061	\$359
Proj 2023	27.6%	\$4,563,737	\$1,259,592	\$365

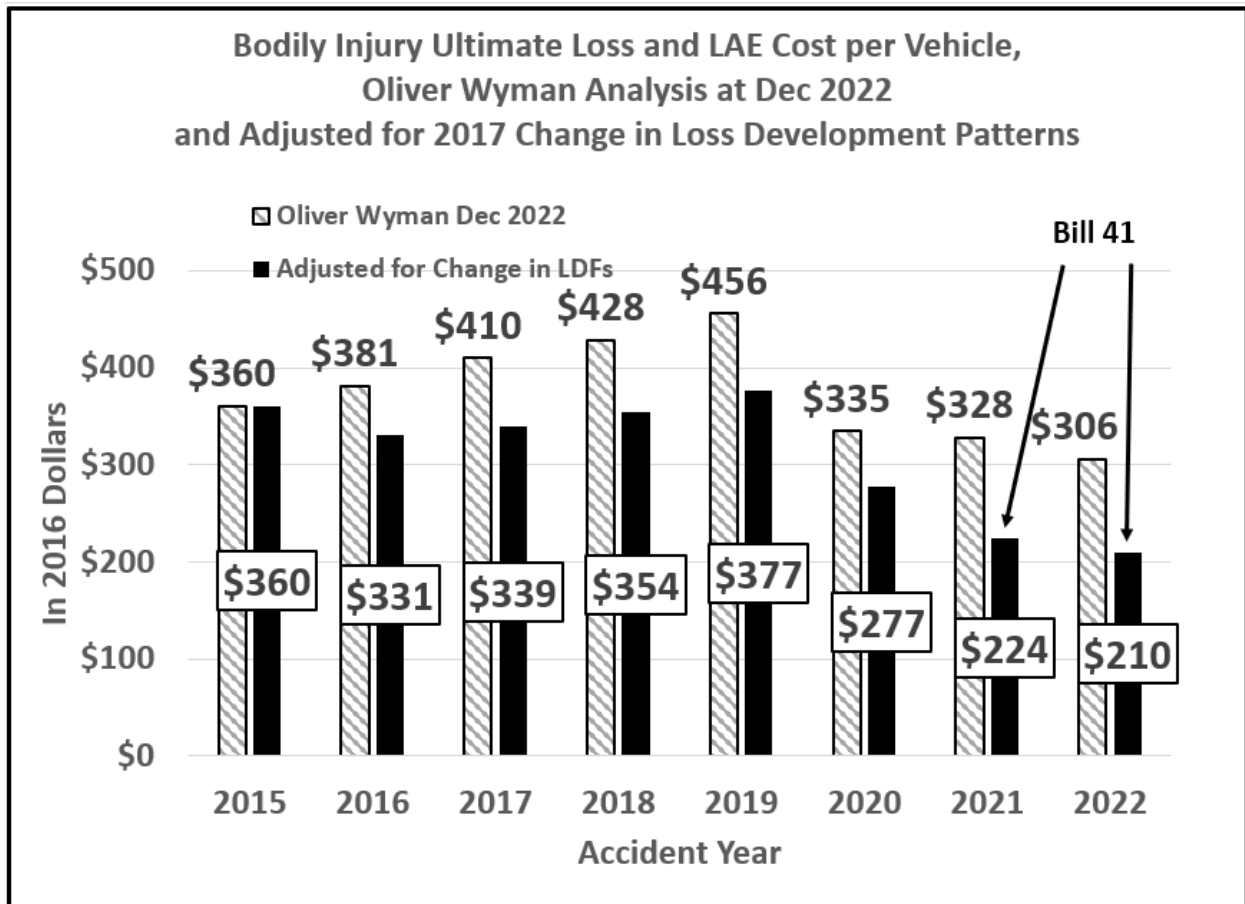
Source: Appendix Table A 8.3

VI. In-Depth Analysis of the Bodily Injury Loss Cost Projections

Figure 3 below illustrates the difference in bodily injury loss and LAE per vehicle trend between the results of my analysis and the amounts published by Oliver Wyman in its 2023 report.

It can be seen that the Oliver Wyman projections increase from one accident year to the next for accident years 2015 through 2019, even where the loss costs are adjusted for inflation to 2016 dollars. This pattern is the basis for Oliver Wyman’s selection for BI of 8.0% for past and 5.0% for future loss and LAE.

Figure 3: Bodily Injury Loss Cost, Oliver Wyman as at December 31, 2022



Source: Appendix Table A 2.5, Column [6]

In light of the differing trend findings between Oliver Wyman's analysis and my findings, the next sections analyze the bases for my findings.

The primary reason that my projections differ from those of Oliver Wyman is the adjustment I make for a change in the development pattern of case incurred claim values, beginning in 2017. The distinct and continuing change in the actuarial development pattern is seen below in Figure 7 and Figure 8.

This change in the development pattern occurs at the same time as an advisory by GISA that large insurers had changed their claims handling and reserving practices. My adjustment makes the assumption that the change in pattern reflects a change in the timing of recognition of claims costs, not a change in the claims' ultimate settlement values.

A. Favorable Development in Oliver Wyman's Projected Bodily Injury Loss and LAE Costs

Successive analyses by Oliver Wyman, for the bodily injury coverage, have shown a mix of favorable and unfavorable changes in the estimated ultimate loss and LAE cost per vehicle.

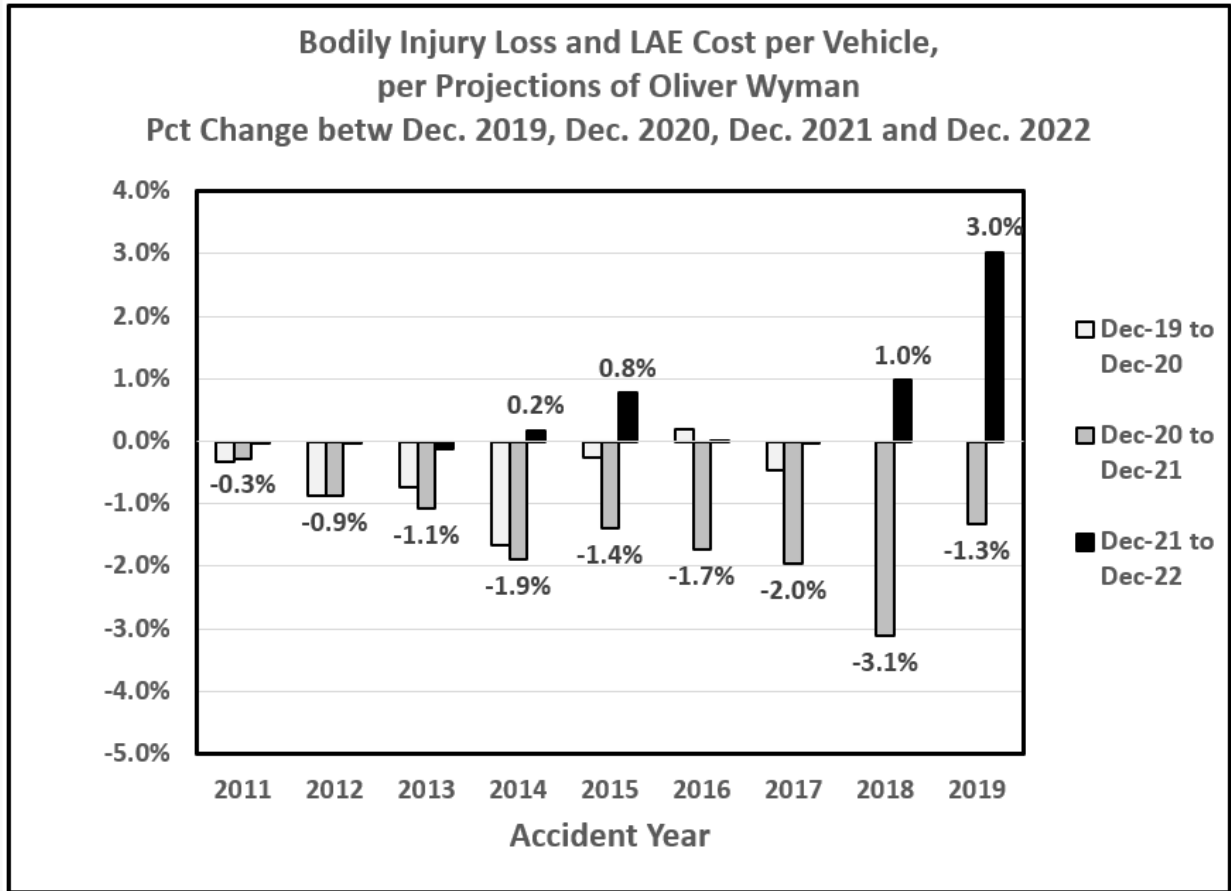
Figure 4 below illustrates the various movements in these estimated amounts.

Figure 5 below illustrates the net total magnitude of favorable development in Annual and Semi-Annual Reviews since Dec. 2017.

The development seen in these charts demonstrates the uncertainty that continues in the projected values of bodily injury coverages for these accident years. It also indicates that the coverage has been more profitable than was indicated in many previous Annual and Semi-Annual Reviews.

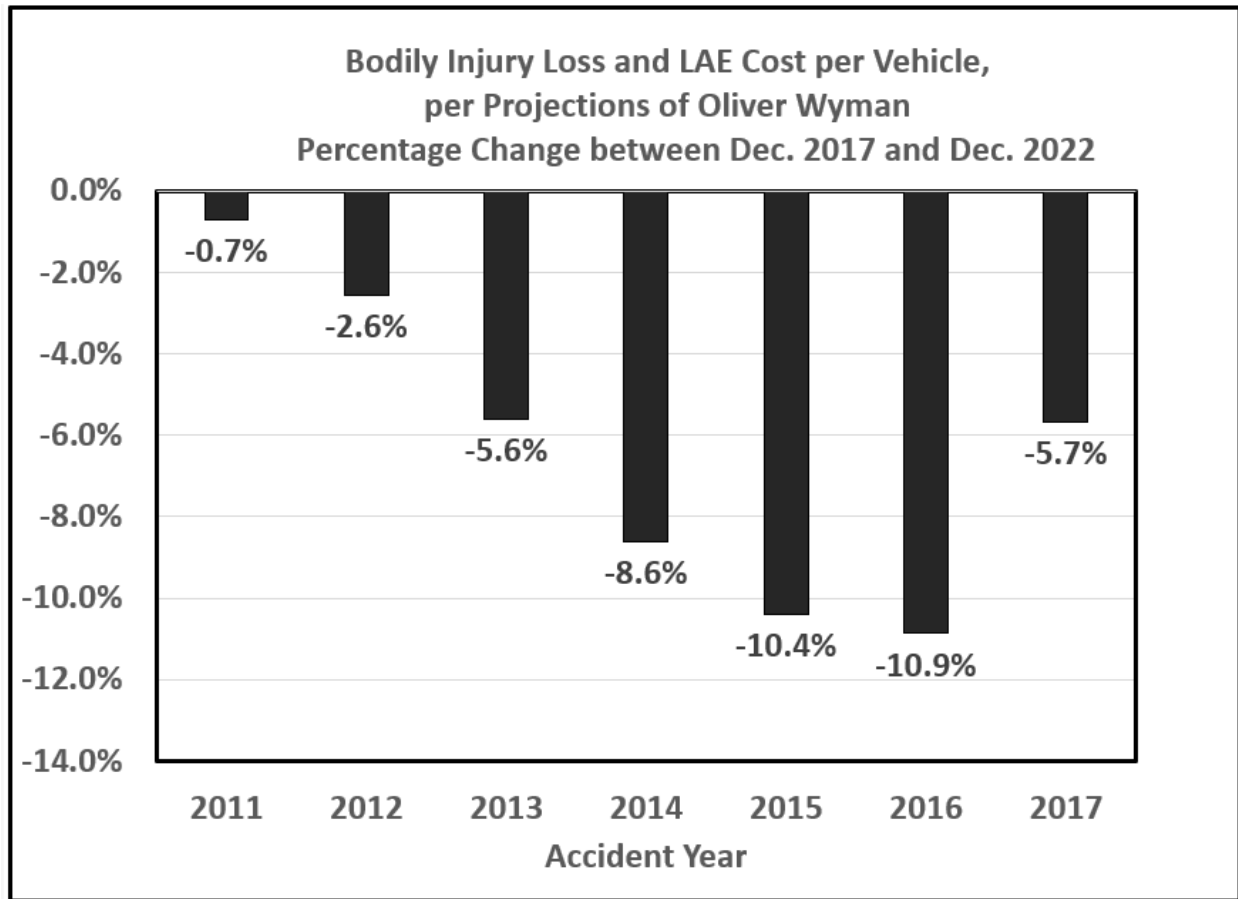
Further, the decreases seen since 2017 in Figure 5 reversed previous increases made between year-end 2016 and year-end 2017. The presence of decreases, after increases, across several accident years, points to the uncertainty about the remaining trajectory of the claim value projections.

Figure 4 – Development on Ultimate Loss and LAE Projections between Dec. 2019, Dec. 2020, Dec. 2021, and Dec. 2022



Source: Appendix Table A 3.1, Columns [7], [8], [9]

Figure 5 – Development on Ultimate Loss and LAE Projections between Dec. 2017 and Dec. 2022



Source: Appendix Table A 3.1, Column [6]

B. The Demonstrated Potential for Favorable Development in Case Incurred Loss and LAE

The loss development factors presented on Appendix A, Page 3 of the 2023 Oliver Wyman report show a projection of continuous increases in the case incurred amounts for loss and ALAE for the bodily injury coverage, for groupings of claims up to 150 months in age. This may suggest that once the case amounts for a given accident year reach a given level, that this level is a new floor for the accident year.

In actuality, the case amounts are subject to later adjustment, that can bring about decreases as well as increases.

Table 11 shows a marked decrease in case incurred amounts reported six months ago, at June 2022. Those amounts have since been revised upward at Dec. 2022 - which does not diminish

the point that the amounts reported are estimates of future payments and thus are inherently uncertain. They are the accumulation of estimates made by claims staff, independently, while guided by operational procedures in a number of different insurers. Further, the estimate for any given claim is subject to regular revision up to the point of settlement of the claim.

Table 11: Reported Case Incurred Loss and ALAE, at Four Reporting Periods

Accident Half Year	Case Incurred Loss and ALAE (000s)			
	Reported at Dec. 2020	Reported at Dec. 2021	Reported at June 2022 :	Reported at Dec. 2022
2013.02	\$369,579	\$369,325	\$366,926	\$369,869
2014.01	\$312,325	\$315,355	\$312,002	\$315,757
2014.02	\$423,616	\$419,364	\$417,967	\$420,759
2015.01	\$373,624	\$377,730	\$374,179	\$381,657
2015.02	\$462,509	\$469,877	\$464,977	\$473,624
2016.01	\$411,400	\$418,376	\$409,856	\$418,722
2016.02	\$491,645	\$511,231	\$506,572	\$519,836
2017.01	\$434,059	\$451,274	\$440,802	\$462,581
2017.02	\$483,880	\$519,576	\$507,658	\$537,539
2018.01	\$422,497	\$477,506	\$469,967	\$505,459

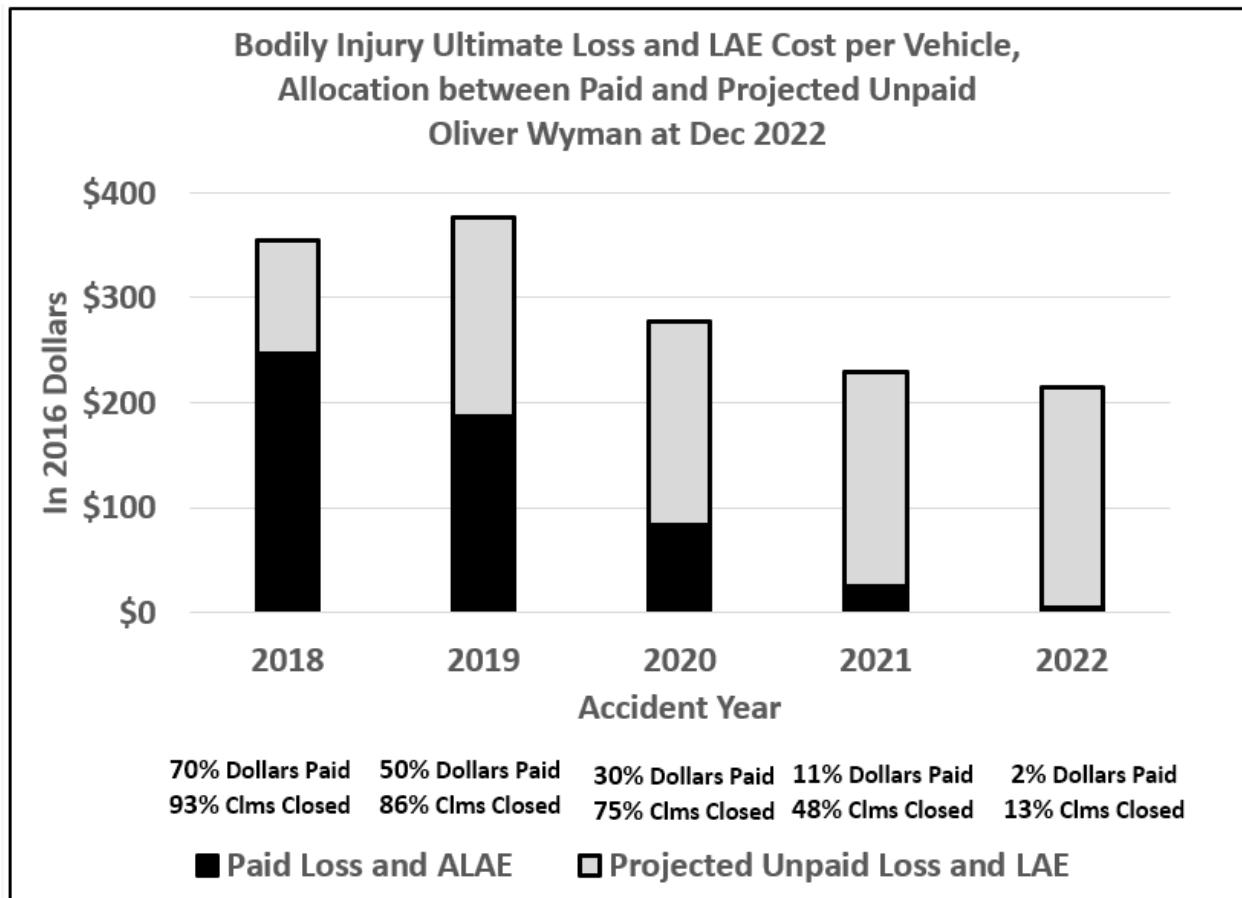
Source:

Exhibit AUTO 7001-AB-2020 for Dec. 2020,
 Exhibit AUTO 7001-AB-2021 for Dec. 2021,
 Exhibit AUTO-7501-AB-2022 for June 2022,
 Exhibit AUTO 7001-AB-2022 for Dec. 2022,
 General Insurance Statistical Agency (GISA)

C. Unpaid Amounts Dominate, in the Last Five Accident Years

Figure 6 below illustrates that unpaid amounts continue to dominate the projected loss costs for the accident years 2018 and later. Thus, the proportion of dollars that remains open to change in either direction is relatively high.

Figure 6: Bodily Injury Loss Cost, Balance between Paid and Projected Unpaid Amounts, as at December 2022



Source: Appendix Table A 4.2, Columns [4], [7]; Appendix Table A 4.3, Columns [5], [6]

Note that the percentage of claims closed for each accident year is much higher than the percentage of dollars finalized. This pattern is common among insurance claims, as smaller claims are generally settled more quickly than larger claims. It also is consistent with Alberta’s Minor Injury Regulation working as intended – in streamlining the resolution of minor injury claims.

D. 2017 Changes in Claims Handling Practices, per GISA Notes to Users

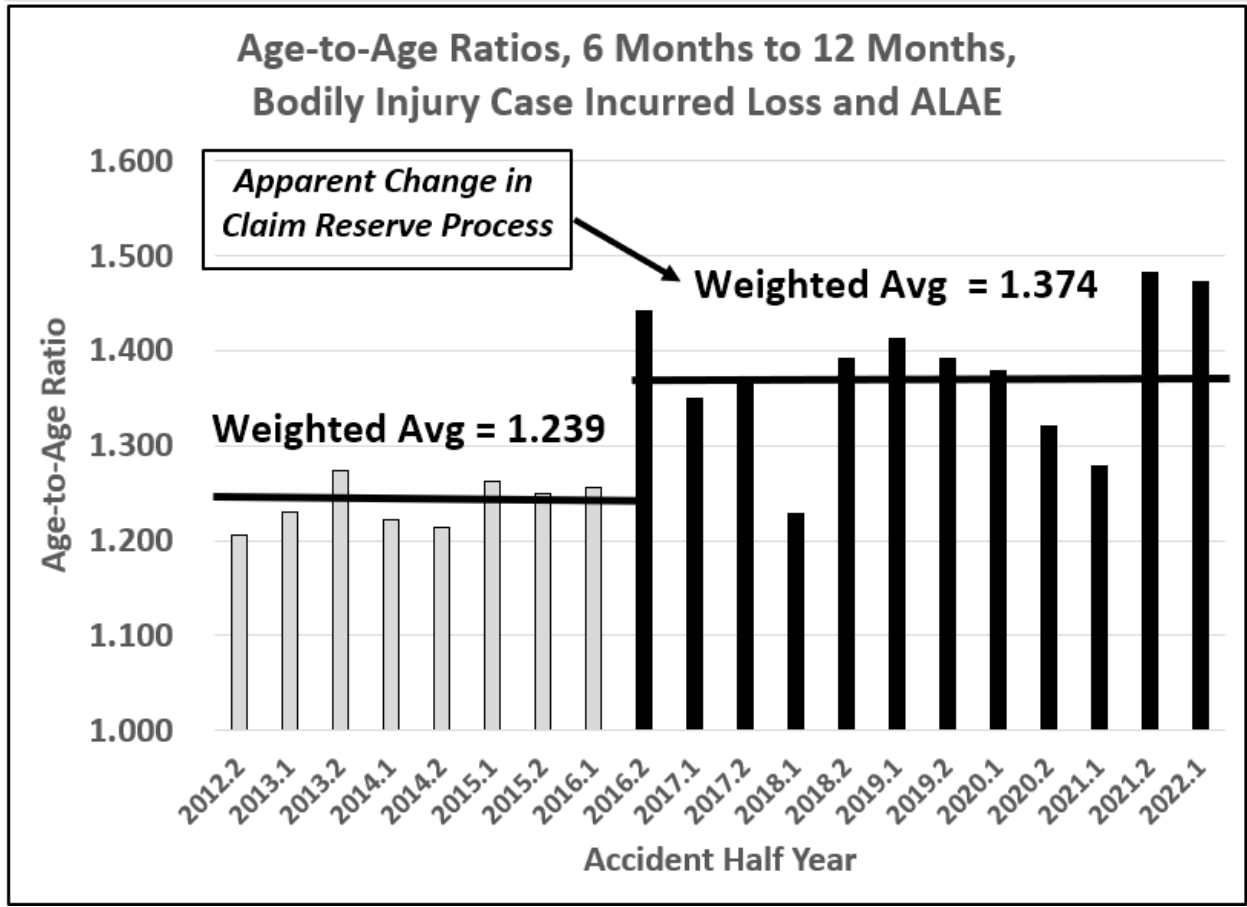
In publishing the private passenger automobile experience data for Alberta, GISA issued a bulletin of Notes to Users. These notes advise users of where to exercise caution in using the GISA exhibits.

- Note 12 advises that a large insurer has changed its claims handling practices for BI claims, increasing the rate at which it closes claims, beginning in the first half of 2017 and continuing in later calendar periods.
- Note 13 advises that a large insurer has strengthened its case reserving practice for BI claims, beginning with accident semester 2017-2, yielding increased case reserve amounts in calendar periods 2017-2 and later.

Evidence of changes in claims handling practices that coincide with these advisories can be seen in the ratios of case incurred loss and LAE at successive age intervals (i.e. age-to-age ratios in the loss development “triangle.”)

Figure 7 below presents the age-to-age ratios in the ten half-year intervals beginning in calendar year 2017, and compares them to those for the seven half-year intervals ending at calendar year 2016. It can be seen that there is a marked and persistent shift from an average ratio of 1.239 in the pre-2017 period to an average of 1.374 in calendar year 2017 and later.

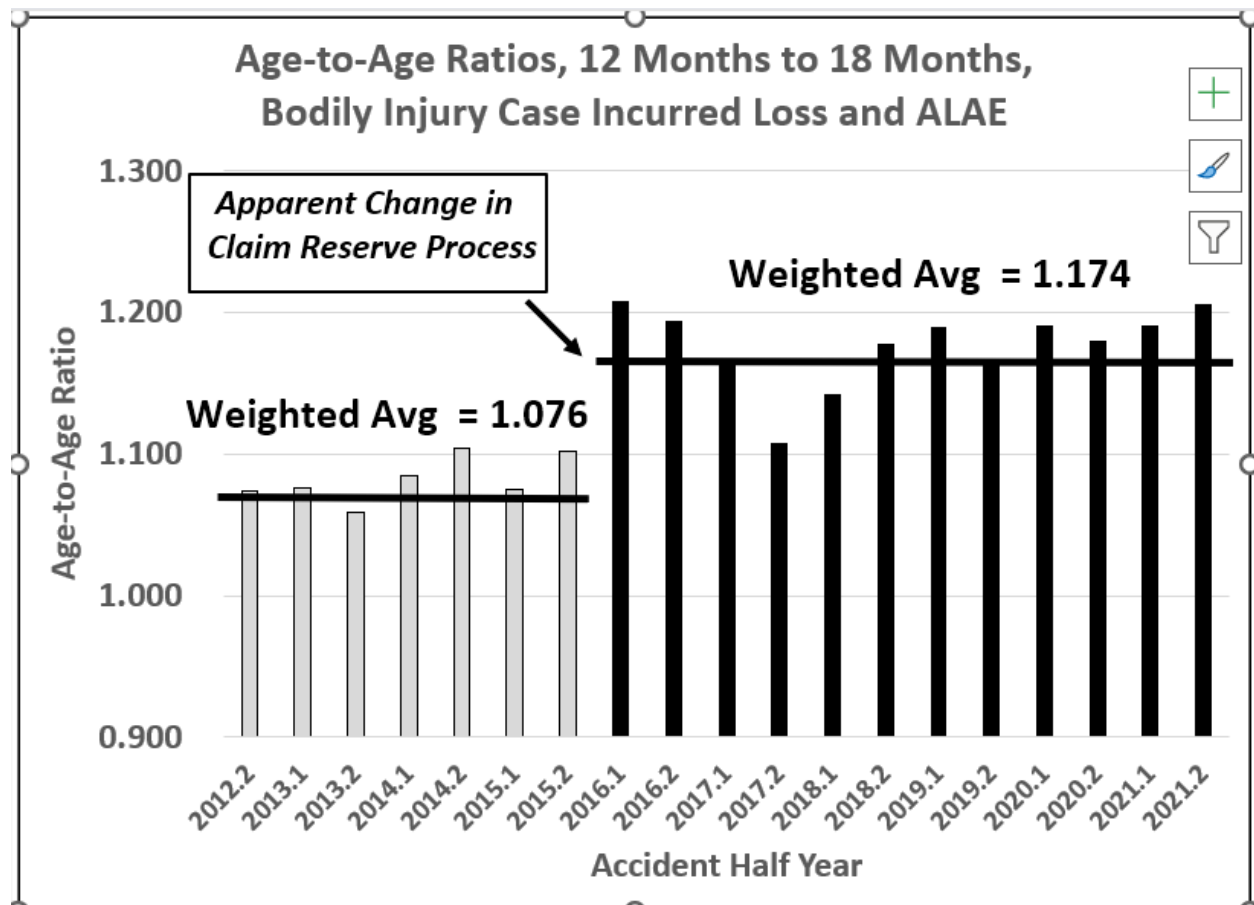
Figure 7: Age-to-Age Ratios, 6 Months to 12 Months



Source: Appendix Table A 5.1

Figure 8 shows a similar discontinuous and ongoing shift for the ratios from 12 months to 18 months, from an average ratio of 1.076 in the pre-2017 period to an average of 1.174 in the latter period.

Figure 8: Age-to-Age Ratios, 12 Months to 18 Months



Source: Appendix Table A 5.2

These shifts could indicate a change in claims handling practices, in particular rules and policies that lead claims staff to set case reserves at a higher level with a given set of facts having emerged. Such a shift would not imply a change in the nature of the underlying claims costs – rather it would indicate a change in the *estimates* and *predictions* of those claims costs, as made by claims staff and management.

The following are the reasons that suggest to me that the shift in pattern is a matter of reserving practice, rather than an increase the underlying loss cost.

- First is that the shift has occurred at precisely the time that the GISA advisories in Notes 12 and 13 note a shift in claims handling practice. The term “strengthening” is used in Note 13, which often suggests a one-time disruption in the level of reserves, and a later return to “normal.” However, in this case, the rise in the age-to-age factors takes hold in new cohorts of claims. It is possible for a change in claims handling policy to roll out over the life cycle of the claims – since certain facts that interact with the new procedures may take time to emerge. The pattern observed in Figures 7 and 8 would be consistent with this change.
- Second, the shift in the pattern happened some two years after the major court decision *McLean v. Parmar* in 2015, suggesting that the change did not arise from that decision.
- As will be seen in the next section, the rise in the reserve level hasn’t been accompanied by a rise in claim dollars paid.

Once a new process for setting case reserves has been established, has been applied to all open claims, and has been in operation *throughout the life cycle* of several accident-year cohorts of claims, the unadjusted actuarial process for determining ultimate loss costs will operate satisfactorily. Where the new pattern increases the age-to-age ratio at an earlier age, the age-to-age ratios at later ages will be expected to *decrease* from the previous pattern. In effect, the growth cycle is shifted to an earlier age.

In the case of the Alberta 2017 shift, the second phase, the decrease in age-to-age ratios at a later age, has not yet been observable. For the accident years 2016 and later, “the other shoe hasn’t dropped.” There has not been a shift in the pattern at later ages i.e. a decrease to offset the higher ratios seen at the 6-12 month and 12-18 month intervals. Thus, the unadjusted chain-ladder method applies age-to-age factors drawn from accident years that follow the old pattern (2015 and prior) to claims cohorts (accident years 2016 and later) that fall under the new pattern.

In the sections that follow, I make adjustments to case incurred losses and loss development ratios that are designed to re-establish consistency between accelerated case incurred amounts for accident years 2016 and later, and loss development factors drawn from accident years 2015 and earlier.

E. The Test of Increasing Case Reserves against Payments to Date

As stated in the previous section, the change in loss development patterns at the 6-12 month and 12-18 month intervals, toward higher levels of case reserves at an earlier age, may indicate a change in case reserving practices that is only a procedural change, not a sign of an increase in the underlying loss cost. The alternative would be for the transitions to higher case incurred amounts to signal an increase in the underlying loss cost.

My finding in the tests below continues to be, as in 2022, that they indicate only a change in reserving practices, and not an increase in the underlying loss amount.

For this test, the tables below compare case incurred loss costs with corresponding paid loss costs for accident years at ages 48 and 60 months.

One caveat about this test is that the amounts paid through those intervals represent only a small portion of the ultimate dollars paid for an accident year, and also represent the smaller and less involved claims. However, on the other hand, the absence of significant changes in amounts paid to date is evidence that increases in case reserves reflect reserving practices rather than a change in underlying loss costs.

Table 12 below shows a steady increase in the average case incurred loss and LAE per vehicle (in 2016 dollars) between accident years 2016 and 2019. In contrast, the average paid loss and LAE per vehicle (2016 dollars) for the same accident years does not increase consistently.

That the increase in average inflation-adjusted case incurred amounts is not mirrored by a consistent increase in inflation-adjusted paid amounts supports the hypothesis that there is only a change in reserving practices, and not an increase in the underlying loss amount.

Table 12: Case Incurred and Cumulative Paid Loss and LAE, Age 48 Months, Accident Years 2016 through 2019

Accident Year	Case Incurred Loss and LAE (000s), Age 48 Months	Cumulative Paid Loss and LAE (000s), Age 48 Months	Case Incurred Loss and LAE per Vehicle, Age 48 Months, 2016 Dollars	Cumulative Paid Loss and LAE per Vehicle, Age 48 Months, 2016 Dollars	Percentage of Reported Claims Closed, Age 48 Months
2016	\$839,250	\$464,262	\$311	\$172	90.0%
2017	\$917,939	\$500,104	\$337	\$183	88.9%
2018	\$980,031	\$502,915	\$343	\$176	86.3%
2019	\$1,069,778	\$550,232	\$364	\$187	85.3%

Table 13 below shows a similar pattern through 60 months. In this case, the average case incurred amounts per vehicle (in 2016 dollars) consistently increase, while average inflation-adjusted paid amounts per vehicle do not show a steady increase (increasing from accident year 2016 to 2017, but halting the increase after accident year 2017).

(One caution is that the absence of a consistent increase in the paid amount per vehicle may be due to a slowing in the percentage of reported claims settled, particularly at age 48 months. Still, it should be noted that the progression in average payments, as claims close, may not be smooth, since claims don't necessarily close in a predictable order.)

Table 13: Case Incurred and Cumulative Paid Loss and LAE, Age 60 Months, Accident Years 2016 through 2018

Accident Year	Case Incurred Loss and LAE (000s), Age 60 Months	Cumulative Paid Loss and LAE (000s), Age 60 Months	Case Incurred Loss and LAE per Vehicle, Age 60 Months, 2016 Dollars	Cumulative Paid Loss and LAE per Vehicle, Age 60 Months, 2016 Dollars	Percentage of Reported Claims Closed, Age 60 Months
2016	\$903,045	\$612,400	\$334	\$227	94.1%
2017	\$970,975	\$664,893	\$356	\$244	93.7%
2018	\$1,051,007	\$704,816	\$368	\$246	92.6%

F. Specific Adjustments Made for the Change in Loss Development Patterns

An acceleration in loss development patterns has a double, reinforcing effect, amplifying both the current case incurred amounts, and the loss development factors that are calibrated from the new development patterns.

Thus, the process of adjusting the loss development process to a consistent basis throughout the life cycle of the accident year requires two adjustments. The first is an adjustment to the case incurred amounts for the affected accident years to a level of adequacy consistent with the later age-to-age intervals. The second adjustment is to the loss development factors for earlier ages – to undo the “front-loading” of loss development.

1. Adjustments to Case Incurred Amounts

As seen in Figure 7, the average age-to-age ratio for the interval 6-12 months has increased from 1.239 to 1.374 for accident semesters from 2016.2 through 2022.1. Thus, an adjustment to the case incurred amounts for these accident semesters, by the multiplier $1.239/1.374 = 0.902$ is applied. This multiplier will partially restore the level of adequacy of the case incurred loss and LAE amounts to the levels seen prior to the shift that took place in calendar year 2017.

Similarly, a multiplier of $1.076/1.174 = 0.917$, taken from Figure 8, is applied for accident semesters 2016.1 through 2021.2 to provide the remaining restoration to the level of adequacy that existed prior to calendar year 2017.

Table 14 below calculates the adjustment factors to case incurred amounts, by accident semester.

Table 14: Adjustment Factors for Case Incurred Loss and ALAE

Accident Semester	[1] Adjustment Factor for Age 6-12 Months	[2] Adjustment Factor for Age 12-18 Months	[3] Total Adjustment Factor [1] x [2]
2015.1	1.000	1.000	1.000
2015.2	1.000	1.000	1.000
2016.1	1.000	0.917	0.917
2016.2	0.902	0.917	0.827
2017.1	0.902	0.917	0.827
2017.2	0.902	0.917	0.827
2018.1	0.902	0.917	0.827
2018.2	0.902	0.917	0.827
2019.1	0.902	0.917	0.827
2019.2	0.902	0.917	0.827
2020.1	0.902	0.917	0.827
2020.2	0.902	0.917	0.827
2021.1	0.902	0.917	0.827
2021.2	0.902	0.917	0.827
2022.1	0.902	1.000	0.902
2022.2	1.000	1.000	1.000

Source: Appendix Tables A 5.1, A 5.2

2. Adjustments to Loss Development Factors

The only two development factors to ultimate that are affected by the shift in the intervals from 6-12 months and from 12-18 months are the factors from 6 months to ultimate and from 12 months to ultimate.

Table 15 below calculates the adjustment factors to case incurred amounts, by accident semester.

Table 15: Adjustment Factors for Loss Development Factors

Accident Semester	[1] Adjustment Factor for Age 6-12 Months	[2] Adjustment Factor for Age 12-18 Months	[3] Total Adjustment Factor [1] x [2]
2015.1	1.000	1.000	1.000
2015.2	1.000	1.000	1.000
2016.1	1.000	1.000	1.000
2016.2	1.000	1.000	1.000
2017.1	1.000	1.000	1.000
2017.2	1.000	1.000	1.000
2018.1	1.000	1.000	1.000
2018.2	1.000	1.000	1.000
2019.1	1.000	1.000	1.000
2019.2	1.000	1.000	1.000
2020.1	1.000	1.000	1.000
2020.2	1.000	1.000	1.000
2021.1	1.000	1.000	1.000
2021.2	1.000	1.000	1.000
2022.1	1.000	0.917	0.917
2022.2	0.902	0.917	0.827

Source: Appendix Tables A 5.1, A 5.2

3. Calculation of Ultimate Bodily Injury Loss and LAE Cost per Vehicle, Using Adjustments

Table 16 below illustrates the complete process for the affected accident semesters, of adjusting both the case incurred loss and LAE amounts, and the loss development factors to which they are applied. The result, at the right-hand column, is the series of inflation-adjusted loss costs seen in Figures 1 and 2.

Table 16: Calculation of Ultimate Bodily Injury Loss and LAE Cost per Vehicle, with Adjustments for Change in Loss Development Pattern

Accident Semester	Earned Vehicles	Oliver Wyman Ultimate Loss and LAE at Dec. 2022 (000s)	Adjustmt Factor for Case Incurred Loss and ALAE	Adjustmt Factor for LDFs	Adjusted Ultimate Loss and LAE at Dec. 2022 (000s)	Additional Impact of Bill 41 (000s)	Loss and LAE Cost per Vehicle	Alberta CPI (June)	Loss and LAE Cost per Vehicle in 2016 Dollars (CPI 135.2)
2015.1	1,302,827	\$423,829	1.000	1.000	\$423,829				
2015.2	1,349,390	\$526,893	1.000	1.000	\$526,893		\$358	134.5	\$360
2016.1	1,324,194	\$459,730	0.917	1.000	\$421,572				
2016.2	1,354,518	\$570,485	0.827	1.000	\$471,868		\$334	136.3	\$331
2017.1	1,323,273	\$513,926	0.827	1.000	\$425,086				
2017.2	1,369,359	\$603,490	0.827	1.000	\$499,167		\$343	136.9	\$339
2018.1	1,348,575	\$581,906	0.827	1.000	\$481,314				
2018.2	1,399,092	\$641,366	0.827	1.000	\$530,496		\$368	140.7	\$354
2019.1	1,372,063	\$629,364	0.827	1.000	\$520,568				
2019.2	1,410,672	\$708,558	0.827	1.000	\$586,072		\$398	142.7	\$377
2020.1	1,371,302	\$473,817	0.827	1.000	\$391,910				
2020.2	1,408,857	\$523,836	0.827	1.000	\$433,283		\$297	145.0	\$277
2021.1	1,380,646	\$431,900	0.827	1.000	\$357,239	\$71,794			
2021.2	1,426,182	\$580,600	0.827	1.000	\$480,234	\$74,161	\$246	148.9	\$224
2022.1	1,395,504	\$447,933	0.902	0.917	\$370,501	\$72,566			
2022.2	1,446,075	\$590,923	1.000	0.827	\$488,773	\$75,196	\$250	161.4	\$210

Source: Appendix Tables A 2.1, A 2.4 and A 2.5

G. Bill 41 and its Impact

In November of 2020, the Government passed a series of reforms (Bill 41) reducing the level of compensation for bodily injuries in auto accidents in Alberta.

IBC Estimates of Claims Cost Reduction

The IBC, in its report “Driving Change: Auto Insurance that Works,”⁴ published a projection that changes to the definition of a minor injury in the Minor Injury Regulation (MIR) would reduce claims costs by \$76 per earned vehicle. Further, the report also provided that the reduction in prejudgment interest (PJI) for non-pecuniary damages would reduce costs by \$15 per earned vehicle. The publication does not provide an estimate of the further savings to arise from the limitation in the number of expert reports under Bill 41.

For accident years 2021 and 2022, reductions in claims costs due to Bill 41 are based on these amounts. For accident years 2023 and beyond, reductions in claims costs due to Bill 41 are based on the Oliver Wyman New Normal reductions in frequency, and a reduction in severity based on the analysis below.

Remaining Accident Year 2021 and 2022 Impact

When the IBC published its estimate, there was no recorded claims experience under the new legislation. For accident years 2021 and 2022, the combined impact of Bill 41 was estimated by the IBC to be \$76 plus \$15 per earned vehicle, totalling \$91.

However, as of December 2022, there are claims that have been reported under the Bill 41 regime, and case estimates of their value have been made. The analysis below estimates the remaining impact of Bill 41 not yet recognized in the case estimates.

Table 17 estimates that \$39 per vehicle has already been recognized in the estimated loss and LAE cost for accident years 2021 and 2022. Thus, there remains \$52 per vehicle in savings for accident years 2021 and 2022 for Bill 41.

⁴ “Driving Change: Auto Insurance that Works,” Insurance Bureau of Canada, March 6, 2020, p. 6.

Table 17: Estimated Impact of Bill 41, Recognized in Case Incurred Losses to Date at Dec. 31, 2022

Acc Yr	Earned Vehicles	Incurred Loss and LAE (000s)	Claim Count	Severity	Alberta CPI (June)	Alberta CPI for 2021	Severity in 2021 Dollars	Reduction in Severity from 2021 Level, in 2021 Dollars	Recognized Reduction in Loss and LAE Cost per Vehicle
2017	2,692,631	\$924,253	17,652	\$52,360	136.9	149.3	\$57,102		
2018	2,747,668	\$1,011,810	17,491	\$57,847	140.7	149.3	\$61,383		
2019	2,782,735	\$1,106,641	17,969	\$61,586	142.7	149.3	\$64,435		
2020	2,780,159	\$825,193	12,014	\$68,686	145.0	149.3	\$70,723		
2021	2,806,828	\$837,473	13,340	\$62,779	148.9	149.3	\$62,948	\$7,775	\$37
2022	2,841,580	\$859,273	12,861	\$66,812	161.4	149.3	\$61,803	\$8,919	\$40
2021-2022 comb'd	5,648,407	\$1,696,746	26,201				\$62,386	\$8,337	\$39

Source: Appendix Table A 6.1

Impact on New Normal Adjustment for Bodily Injury, Including Severity

Table 17 shows a reduction in severity under the 2021 and 2022 accident years, compared to 2020, the last accident year prior to Bill 41. The reduction in severity is estimated to be 11.8%, based on the reduction in severity of \$8,337 and a 2020 severity of \$70,723 (both in 2021 dollars).

As reported by Oliver Wyman, the New Normal reduction in frequency for bodily injury is 24.6%. The combined frequency-and-severity reduction is 33.5%, calculated as follows:

$$1 - (1 - 0.246) \times (1 - 0.118) = 0.335$$

VII. In-Depth Analysis of the Profitability of the Alberta Private Passenger Automobile Insurance Industry

Throughout the analyses below, profit for the industry is measured using the method employed by J.S. Cheng and Partners Inc. (“Cheng”) in its 2007 analysis of Alberta auto insurance reform.⁵

Other methods of calibrating the industry profit are cited in Oliver Wyman’s 2023 report. These methods include the “Realized Profit Provision,” applying to the whole industry the formula used by AIRB in assessing whether rate applications meet the benchmark profit margin of 7%. (The Realized Profit Provision measure does not include investment income earned on insurance company capital). They also include the profit report AUTO9501-AB prepared by GISA. Sections below will find some consistency between the results of the Cheng method and the Realized Profit Provision. They will also cite the differences that account for lower profit amounts reported in the GISA Profit Report.

The Realized Profit Provision in this analysis is calculated slightly differently than Oliver Wyman’s method, in that it uses estimates of calendar year investment income on reserves (as is done in the Cheng method), in place of discounting of the loss and LAE ratio. However, this approach is approximately equivalent.

A. Results by Year, 2011 to 2019

Table 18 below calculates industry pre-tax profit using the claims costs from the Oliver Wyman December 2022 report, adjusted for the 2017 change in loss development patterns. With claims costs at this level, total pre-tax profit for the period is at \$1.078 billion, including a pre-tax profit of more than \$202 million for 2019.

⁵ “REPORT ON THE REVIEW of Insurance Reform – Premium and Claim Analysis by Gordon G. Smith and Theresa K. Reichert of Deloitte and Touche LLP,” J.S. Cheng and Partners, Inc., March 29, 2007

Table 18: Annual Profit and Loss, 2011-2019, Alberta Private Passenger Auto Insurance, Using Claims Amounts per Oliver Wyman Analysis as at Dec 2022, Adjusted for 2017 Loss Development Pattern Change

(Dollar Amounts in Thousands)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Premium	\$2,476,400	\$2,579,400	\$2,729,200	\$2,923,200	\$3,089,300	\$3,186,100	\$3,308,500	\$3,524,500	\$3,782,900	
Less: Claims Costs	\$1,653,200	\$1,939,700	\$2,093,300	\$2,287,400	\$2,513,100	\$2,582,000	\$2,544,600	\$2,699,800	\$2,775,200	
Less: Oper. Expenses	\$604,300	\$629,400	\$665,900	\$707,400	\$784,700	\$850,700	\$919,800	\$937,500	\$1,010,000	
Less: Health Cost Recovery	\$82,100	\$75,700	\$63,800	\$72,700	\$101,400	\$100,100	\$102,900	\$139,200	\$146,400	
Plus: Investment Income on Reserves	\$191,600	\$188,300	\$158,400	\$202,200	\$196,100	\$157,700	\$197,800	\$131,700	\$227,000	
Plus: Investment Income on Capital	\$105,900	\$99,900	\$84,500	\$119,600	\$107,600	\$87,200	\$109,400	\$72,100	\$124,000	
Total Profit, Pre-Tax	\$434,300	\$222,800	\$149,100	\$177,500	-\$6,200	-\$101,800	\$48,300	-\$48,200	\$202,300	\$1,078,100
"Realized Profit Provision" as Pct of Premium	13.3%	4.8%	2.4%	2.0%	-3.7%	-5.9%	-1.8%	-3.4%	2.1%	

Source: Appendix Table A 9.2

B. Results by Year, 2020, 2021, 2022 and Projections for 2023

Table 19 below presents projected pre-tax profit for the industry for 2020 through 2023, using Cheng's method, with adjustments for the 2017 loss development pattern change made to claims costs and trends from the Oliver Wyman Dec. 2022 analysis.

The projection for 2023, is largely based on a continuation forward of premium components from the 2022 year, and claims amounts from the pre-pandemic 2019 accident year, with the following adjustments:

- The projected earned premium for 2023 partially captures premium rate increases taken through late 2022. This done by adjusting the 2022 earned premium upward to the level of written premium in the second half of 2022. Since few company groups were approved for rate increases in late 2022 and early 2023, this approach is an approximation of the premium to be earned in 2023.

- Claims trends from the Dec. 2022 Oliver Wyman analysis are replaced by increases in the Alberta CPI from June 2019 through June 2023, to reflect general inflation, across all coverages. This is consistent with the stability seen (in 2016 dollars) in loss and LAE cost per vehicle for all coverages combined. This makes the conservative assumption that the high rate of general inflation seen in the 12 months ending June 2022 (8.4%) will be transmitted fully to claims costs.
- Claims costs between the 2019 level and the 2022 level are increased by the growth in the number of earned exposures between 2019 and 2022. As with the projected 2023 premium, no change is forecast in the number of earned exposures between 2022 and 2023
- Claims costs for the comprehensive, all perils and specified perils coverages are increased for a catastrophe loading. The loading is derived by reducing the 2019 claims experience by the 2019 catastrophe factor of 1.272 and then increasing the provision by the catastrophe factor for the last 5 years of 1.474, as reported on p. 79 of the Oliver Wyman 2023 Annual Review report. The net effect is to increase the 2019 claims by 15.9%.
- Projected claims costs for the 2023 accident year are adjusted, for the moving coverages bodily injury, property damage-direct compensation, accident benefits, uninsured motorists, collision and all perils, by the New Normal loss cost factors shown in Table 4 in Section V.B.2.
- Projected claims costs for the 2021 and 2022 accident years are reduced by \$37 per earned vehicle for changes to the definition of a minor injury in the Minor Injury Regulation (MIR), enacted in Bill 41. (It is approximated that this change takes effect on Jan. 1, 2021.) A saving of \$76 per vehicle is provided by IBC in its report “Driving Change: Auto Insurance that Works” issued on March 6, 2020.⁶ I have estimated that savings of \$39 per vehicle are already incorporated in my projections of bodily injury claims costs for accident years 2021 and 2022. For the 2023 accident year, I have used the full reduction estimated by IBC of \$76 per vehicle.
- Projected claims costs for the 2021 and 2022 accident years are reduced by \$15 per earned vehicle for changes to the prejudgment interest rate for non-pecuniary damages. (It is approximated that this change takes effect on Jan. 1, 2021.) The saving of \$15 per vehicle is also provided by IBC in its report “Driving Change: Auto Insurance that Works” issued on March 6, 2020.

⁶ “Driving Change: Auto Insurance that Works,” Insurance Bureau of Canada, March 6, 2020, p. 6.

- Projected claims costs for the 2021 through 2023 accident years can be expected to be reduced for the restriction in Bill 41 on the number of expert reports. An estimate of the magnitude of savings has not been made, but additional savings can be expected.

Table 19: Projected Annual Profit, 2020-2023, Alberta Private Passenger Auto Insurance, Using Claims Amounts per Oliver Wyman Analysis as at December 2022, Adjusted for 2017 Loss Development Pattern Change

(Dollar Amounts in Thousands)

	Actual 2020	Actual 2021	Actual 2022	Projected 2023*	Total
Premium	\$4,067,700	\$4,367,300	\$4,494,700	\$4,563,700	
Less: Claims Costs	\$2,346,100	\$2,164,400	\$2,412,700	\$2,672,000	
Less: Operating Expenses	\$1,057,600	\$1,135,500	\$1,218,100	\$1,259,600	
Less: Health Cost Recovery	\$115,500	\$75,600	\$91,900	\$75,000	
Plus: Investment Income on Reserves	\$237,500	\$180,900	\$20,000	\$158,800	
Plus: Investment Income on Capital	\$130,600	\$103,500	\$11,400	\$90,900	
Total Profit, Pre-Tax	\$916,600	\$1,276,200	\$803,400	\$806,800	\$3,803,000
“Realized Profit Provision” as Pct of Premium	19.3%	26.9%	17.6%	15.7%	

Source: Appendix Table A 9.1

C. Results by Coverage, 2019 through 2023

Table 20: Pre-Tax Profit (000s) by Coverage, 2019 through 2023

	Basic Coverages (BI, PD, DC, AB, UM)	Collision	All Other	Total
Actual 2019	(\$15,700)	\$109,900	\$108,000	\$202,200
Actual 2020	\$709,700	\$280,700	(\$73,800)	\$916,600
Actual 2021	\$923,500	\$227,800	\$124,900	\$1,276,200
Actual 2022	\$577,800	\$170,300	\$55,300	\$803,400
Projected 2023	\$509,600	\$246,300	\$51,000	\$806,900
Total 2020-2023	\$2,720,700	\$925,100	\$157,400	\$3,803,100

Table 21: Realized Profit Provision (which Excludes Investment Income on Capital), as Percentage of Premium, 2019 through 2023

	Basic Coverages (BI, PD, DC, AB, UM)	Collision	All Other	Total
Actual 2019	-3.9%	10.2%	13.6%	2.1%
Actual 2020	24.2%	32.1%	-14.1%	19.3%
Actual 2021	30.1%	26.3%	14.8%	26.9%
Actual 2022	19.5%	21.0%	7.0%	17.6%
Projected 2023	15.1%	28.5%	4.6%	15.7%

Table 22: Average Earned Premium by Earned Vehicle by Coverage, 2019.2 and 2022.2

	Basic Coverages (BI, PD, DC, AB, UM)	Collision	All Other	Total
2019.2	\$859	\$395	\$267	\$1,337
2022.2	\$1,032	\$389	\$317	\$1,581
Pctge Increase	20%	-2%	19%	18%

Detailed calculations used to determine the amounts in Tables 20 and 21 are shown in the Appendix Tables A 9.1, A 9.3, A 9.4, and A 9.5.

D. Other Methods of Calibrating Profit

Oliver Wyman cites two methods of calculating insurance industry profit: the “Realized Profit Provision” and the GISA profit report (AUTO9501-AB). While these methods have similar objectives to the Cheng method, the methods capture different financial components, with data compiled in different groupings.

1. “Realized Profit Provision” as per AIRB Benchmarks – as Calculated by Oliver Wyman

The “Realized Profit Provision” is the actual pre-tax profit, calculated by the formula that is used in benchmark rate filings to determine whether the rates meet the 7% profit provision approved by AIRB in the benchmarks.

As described by Oliver Wyman in 2022, applying this formula provides “a hindsight high level review of the realization of the 7% premium profit target insurers may include in their rate setting models during the last five years for private passenger vehicles in Alberta.”⁷

The formula, as stated on p. 23 of the Oliver Wyman 2023 Annual Review report, is as follows:

Realized Profit Provision = 1 – Discounted Loss & LAE Ratio – Expense Ratio (including health levy)⁸

As stated by Oliver Wyman, “if the actual loss amounts are higher or lower than expected, the realized profit provision as a percentage of premium will be higher or lower than the target 7%.”⁹

Oliver Wyman tabulates the realized profit provision percentages, presented below in Table 23 for each of the calendar years 2013 through 2022. By multiplying the Realized Profit Provision percentages by earned premium for each accident year, a dollar amount of pre-tax profit can be estimated.

Note, as stated by Oliver Wyman, that this realized profit provision does not include investment income earned on capital supporting the private passenger vehicle policies.¹⁰ By contrast, the pre-tax profit as calculated by the Cheng method includes investment income earned on capital supporting the private passenger vehicle policies.

⁷ p. 19, Oliver Wyman 2022 Annual Review

⁸ p. 23, Oliver Wyman 2023 Annual Review

⁹ p. 23, Oliver Wyman 2023 Annual Review

¹⁰ p. 22, Oliver Wyman 2023 Annual Review

Table 23: Realized Profit Provision by Year from 2013 to 2022

Year	Realized Profit Provision Percentage, per Oliver Wyman	Earned Premium (000s)	Realized Profit Provision, per Formula in Benchmark, in Dollars (000s)
2013	2.5%	\$2,729,239	\$68,231
2014	3.0%	\$2,923,180	\$87,695
2015	-2.8%	\$3,089,322	(\$86,501)
2016	-9.1%	\$3,186,081	(\$289,933)
2017	-4.3%	\$3,308,497	(\$142,265)
2018	-6.8%	\$3,524,505	(\$239,666)
2019	-0.3%	\$3,782,861	(\$11,349)
2020	16.3%	\$4,067,651	\$663,027
2021	17.6%	\$4,367,273	\$768,640
2022	9.0%	\$4,494,690	\$404,522

Source of Realized Profit Percentages: Oliver Wyman 2023 Annual Review report, Table 6, p. 23

Footnote 30 on p. 22 of the Oliver Wyman 2023 Annual Review suggests a common rule of thumb, used by insurers in rate applications, to add investment income earned on capital. That rule of thumb attributes \$1 of capital to every \$2 of premium. Investment income is then earned on that level of capital at the rates shown on Table 4 on p. 16 of the Oliver Wyman 2022 Annual Review, and Table 5 on p. 21 of the Oliver Wyman 2023 Annual Review.

Table 24: Realized Profit Provision, Plus Investment Income on Capital, 2013-2021

Year	Assumed Pre-tax Return on Capital	Realized Profit Provision , plus Rule-of-Thumb Investment Income Earned on Capital, per Oliver Wyman	Realized Profit Provision , plus Rule-of-Thumb Investment Income Earned on Capital, in Dollars (000s)
2013	3.41%	4.21%	\$114,764
2014	3.41%	4.71%	\$137,536
2015	3.31%	-1.15%	(\$35,373)
2016	2.78%	-7.71%	(\$245,647)
2017	3.69%	-2.46%	(\$81,224)
2018	2.24%	-5.68%	(\$200,192)
2019	4.23%	1.82%	\$68,659
2020	4.17%	18.39%	\$747,838
2021	2.71%	18.96%	\$827,817
2022	0.08%	9.04%	\$406,320

Source: Appendix Table A 10.1

2. Comparison of the Three Profit Measures

The second compilation of private passenger auto insurance industry profits described by Oliver Wyman is the GISA profit report, AUTO9501-AB_2022.

Table 25 below compares the pre-tax profits of the Realized Profit Provision (including investment income on capital) and of the Cheng method to those compiled by the GISA profit report. All three results shown in Table 25 include an estimate of investment income earned on capital.

Table 25: Pre-tax Profit - Realized Profit Provision, Cheng Method, and GISA Profit Report AUTO9501

Year	Realized Profit Provision, plus Rule-of-Thumb Investment Income Earned on Capital, in Dollars (000s)	Cheng Method, Pre-Tax Profit in Dollars (000s)	GISA Pre-Tax Profit in Dollars (000s)
2011	Not Published by Oliver Wyman	434,300	Not Published by GISA
2012	Not Published by Oliver Wyman	222,800	\$168,030
2013	\$114,764	\$149,100	(\$77,219)
2014	\$137,536	\$177,500	\$27,758
2015	(\$35,373)	(\$6,200)	(\$26,780)
2016	(\$245,647)	(\$101,800)	(\$380,370)
2017	(\$81,224)	\$48,300	(\$190,239)
2018	(\$200,192)	(\$48,200)	(\$223,304)
2019	\$68,659	\$202,300	(\$140,031)
2020	\$747,838	\$916,600	\$69,985
2021	\$827,817	\$1,276,800	\$518,693
2022	\$406,320	\$803,400	\$300,110
2013-2019	(\$241,476)	\$421,000	(\$1,010,185)
2020-2021	\$1,981,974	\$2,996,800	\$888,788

Table 25 shows results for the Realized Profit Provision (plus Investment Income on Capital) that are not exactly equal to, but show consistent year-to-year changes as those of the Cheng method.

It is logical that the Realized Profit Provision as used for the benchmark will produce estimates of profit parallel to that of the Cheng method. Both methods are based on an approach that Oliver Wyman describes as follows:

Using accident year events that are “based on incurred loss amounts as reported by insurers through the automobile statistical plan (ASP) to GISA and a provision for loss development.

Adjustment factors supplied by GISA are applied to the loss amounts to include internal claims handling expenses.”¹¹

It can be seen from Table 25 that the GISA pre-tax profit amounts are much lower than those of the Realized Profit Provision (plus Investment Income on Capital) and of the Cheng method.

As described by Oliver Wyman, and as analyzed in my reports for the 2021 Annual Review and the 2020 Annual Review, the GISA profit report compiles a different picture of the industry’s profitability than that of the Realized Profit Provision, and also that of the Cheng method. **This makes it difficult to directly compare the GISA profit report to the other two measures of profit.**

In addition to the difficulty in directly comparing these sources of information, GISA advises in its Notes to Users for its profit report that the report “should not be used to assess whether current rates are adequate to cover future costs.”¹²

3. Oliver Wyman’s Description of Key Characteristics of the GISA Profit Report

Oliver Wyman lists the following key characteristics of the GISA Profit Report¹³ that differ from those that underlie its calculation of the Realized Profit Provision (and which also underlie the Cheng method that I have used).

- Losses are presented on a **calendar year basis**. This “represents the amount paid during the year plus the change in the held loss reserve amounts between the end and the beginning of the year.”¹⁴ Thus, in the GISA Profit report, the claims costs reported in a given year will combine results for current-year accidents and changes to prior-year accidents, **combining results for accidents of several years**.
- Loss amounts, premiums and expenses are reported net of reinsurance. In contrast, the Realized Profit Provision calculations and the Cheng method calculations are performed gross of reinsurance.
- The GISA Profit Report “includes all investment income, including from supporting capital and cash flow.” As stated previously, the Realized Profit Provision does not include this income. However, this is a point of consistency between the GISA Profit Report and the calculations in the Cheng method.

¹¹ p. 25, Oliver Wyman 2023 Annual Review

¹² p. 7, Item 4, Notes to Users, Automobile Insurance Financial Information Profit and Loss Report, Private Passenger Automobile, Alberta, 2022, AUTO9501-AB_2022

¹³ p. 26, Oliver Wyman 2023 Annual Review

¹⁴ p. 25, Oliver Wyman 2023 Annual Review

For discount rates, provisions for adverse deviation (PFAD) and loss adjustment expenses, Oliver Wyman explains that the GISA profit report does not explicitly disclose these amounts. They are specific to individual insurers, and are embedded in amounts submitted by those insurers to GISA, and are then aggregated with other insurers.

Oliver Wyman provides the following detail around that point:¹⁵

- Discount rates specific to each insurance company underlie the loss data provided to GISA to be compiled into the GISA Profit Report. As stated by Oliver Wyman, “the discount rate used by each insurer is not stated by the insurer in the ... submission to GISA, and therefore the impact of the discount factor cannot be stated....” In contrast, the Discount Factor for the Realized Profit Provision is disclosed on Table 6 on p. 23 of the Oliver Wyman 2023 Annual Review. The losses used in the Cheng method are not discounted.
- The provision for adverse deviation (PFAD) amount included by each insurer in its submission for the GISA Profit Report “is not separately submitted to GISA, and therefore the PFAD included in the AUTO9501 Exhibit is not explicitly stated or provided.” No PFAD is used for the Realized Profit Provision or the Cheng method.
- Loss adjustment expenses for the GISA Profit Report “are included with the loss amounts submitted by each insurer and are not separately stated. By contrast, for the Realized Profit Provision (and the Cheng method), the provision for unallocated loss adjustment expenses, is explicitly “included by a factor determined by GISA based on aggregated submissions by insurers.”

The above factors listed by Oliver Wyman may contribute to the anomalous result seen in the GISA Profit Report in Table 26 below: Table 26 below shows that net claims and adjustment expenses reported for 2020 are ***higher*** than those for 2019, even though it is known that the sharp reduction in traffic in that year brought about many fewer accidents. This suggests that the claims amounts combine various changing reinsurance agreements, and may include changes in projected loss amounts in a number of different accident years besides 2020.

¹⁵ p. 26, Oliver Wyman 2023 Annual Review

Table 26: Net Claims and Adjustment Expenses, per GISA Profit Report, 2013-2022

Year	Net Claims and Adjustment Expenses (000s)
2013	\$2,219,500
2014	\$2,442,356
2015	\$2,448,800
2016	\$2,793,458
2017	\$2,432,172
2018	\$2,714,996
2019	\$2,725,545
2020	\$2,888,031
2021	\$2,362,214
2022	\$2,418,839

Source: GISA Profit Report AUTO9501 - AB

Section 11 of the Appendix provides a detailed description of the differences between the Cheng method and the attributes of the GISA Profit Report. This description was previously provided in my reports that were submitted by ACTLA to the 2020, 2021, and 2022 Annual Reviews.

VIII. In -Depth Analysis of Expenses

A. Operating Expenses

The analyses below show that operating expenses per vehicle for the industry have been increasing at the relatively high rate of between 6.4% and 7.8% in most years. And further that such percentage increases are higher than the corresponding increases for loss and LAE.

Operating expenses include

- premium tax,
- general administrative expenses, including head office costs, and
- commissions and other acquisition costs.

Below, in Table 27, is the operating expense provision, with each accident year's provision assigned the benchmark for the following April. For the purposes of estimating pre-tax profit for the industry, the operating expense provision from the benchmarks is applied to each year's earned premium.

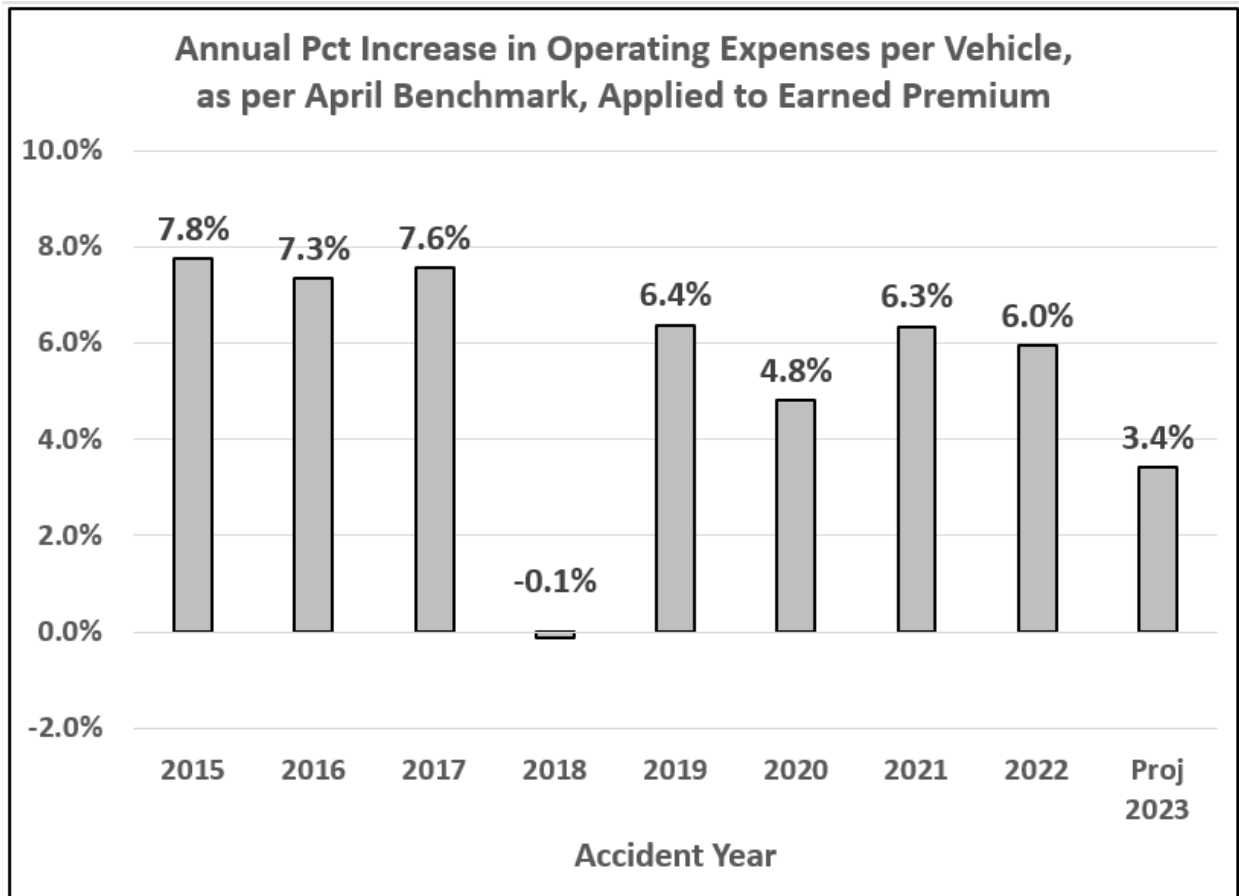
Table 27: Operating Expense Provision by Accident Year

Accident Year	Earned Premium per Earned Vehicle	Operating Expense Pct	Operating Expense per Earned Vehicle	Pct Increase in Oper Exp per Vehicle	Commission and Other Acqn Expense per Earned Vehicle	Increase in Commission and Other Acqn Expense per Earned Vehicle	General Expense per Earned Vehicle	Pct Increase in General Exp per Vehicle	All-Covg Loss and LAE per Earned Vehicle	Pct Increase in All-Covg Loss and LAE per per Vehicle
2014	\$1,134	24.2%	\$275		\$171		\$71.47		\$888	
2015	\$1,165	25.4%	\$296	7.8%	\$176	2.7%	\$73.38	2.7%	\$948	6.8%
2016	\$1,189	26.7%	\$318	7.3%	\$187	6.2%	\$83.26	13.5%	\$964	1.7%
2017	\$1,229	27.8%	\$342	7.6%	\$197	5.3%	\$95.84	15.1%	\$945	-2.0%
2018	\$1,283	26.6%	\$341	-0.1%	\$194	-1.5%	\$96.20	0.4%	\$983	4.0%
2019	\$1,359	26.7%	\$363	6.4%	\$207	6.7%	\$101.96	6.0%	\$997	1.4%
2020	\$1,463	26.0%	\$380	4.8%	\$221	6.9%	\$105.34	3.3%	\$844	-15.3%
2021	\$1,556	26.0%	\$405	6.3%	\$237	7.1%	\$110.47	4.9%	\$771	-8.6%
2022	\$1,582	27.1%	\$429	6.0%	\$250	5.7%	\$118.63	7.4%	\$849	10.1%
Proj 2023	\$1,606	27.6%	\$443	3.4%	\$263	5.4%	\$120.45	1.5%		

Source: Appendix Table A 7.1, Table A 7.2

Figure 9 below shows each accident year's increase in operating expense per vehicle.

Figure 9: Annual Percentage Increase in Operating Expenses per Vehicle



It can be seen from Figure 9 that the annual percentage increase in operating expenses per vehicle since 2015 has, in all but three years, been greater than 6%.

Further, Figure 10 below shows that in most recent years, operating expenses per vehicle have been growing at a significantly higher rate than loss and LAE per vehicle.

Figure 10: Comparison between Annual Percentage Increases in Operating Expenses per Vehicle, and Loss and LAE per Vehicle

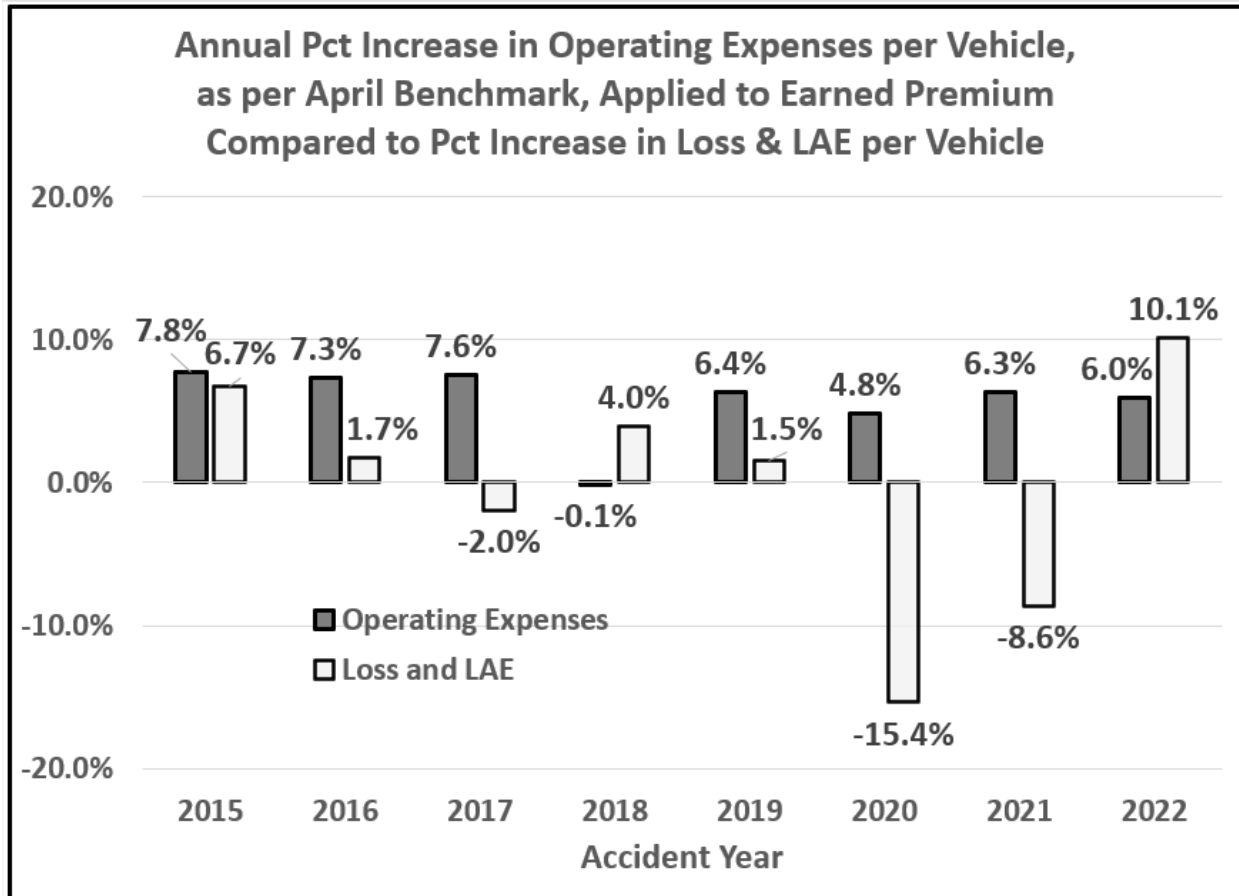
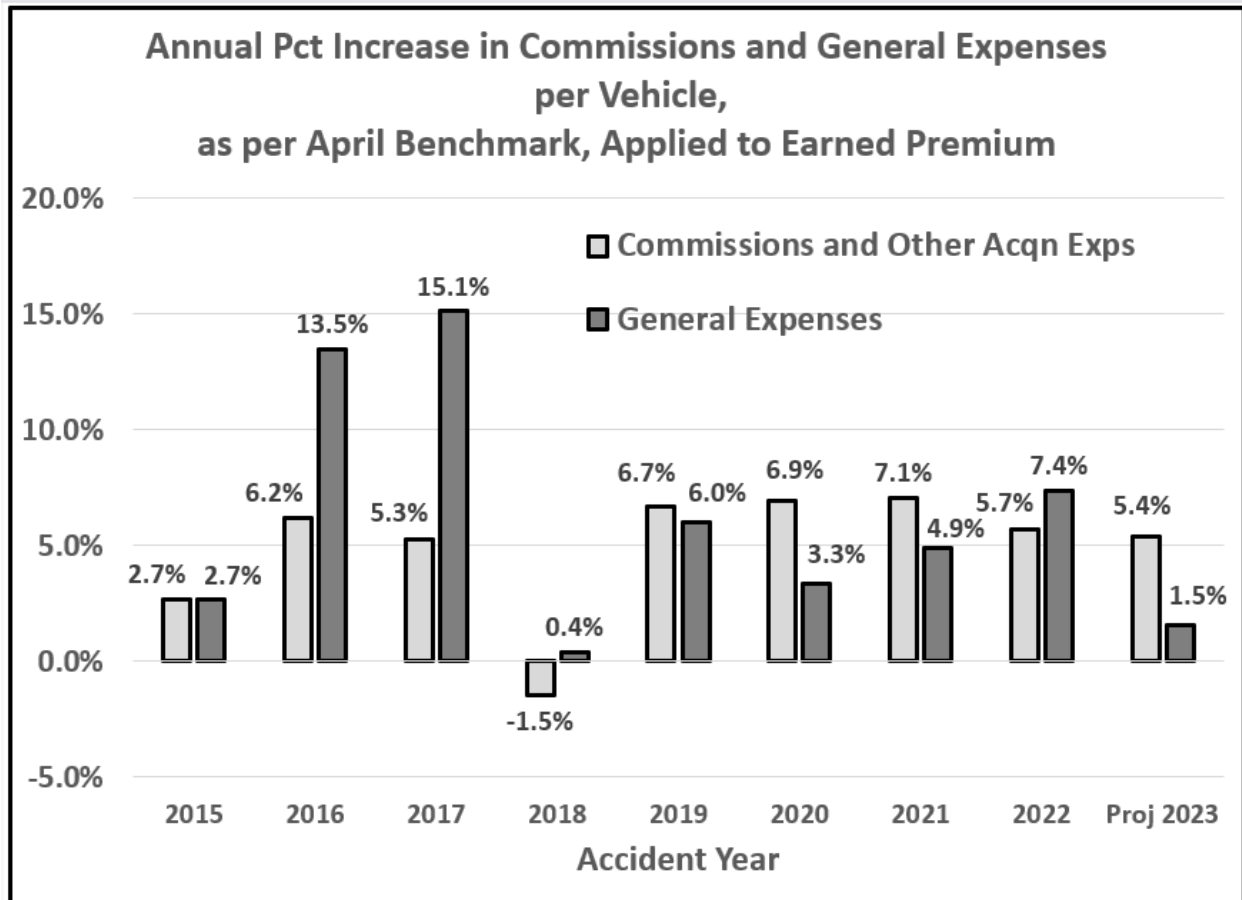


Figure 11 below shows each accident year’s increase in operating expense per vehicle, broken down into commissions/other acquisition expenses and general expenses. Both categories of expense have increased in most years at well above the rate of general inflation.

Figure 11: Annual Percentage Increase in Commissions and Other Acquisition Expenses, and in General Expenses, per Vehicle



B. Health Cost Recovery

The analysis below finds that since 2020, the Alberta Government has significantly reduced the total amount of Health Cost Recovery levied to the industry, which has contributed to the increase in the pre-tax profits of the industry.

Table 28 shows the Health Cost Recovery assessment factors, as set out by the Alberta Government, and applied to written third party liability premium, between 2011 and 2023.

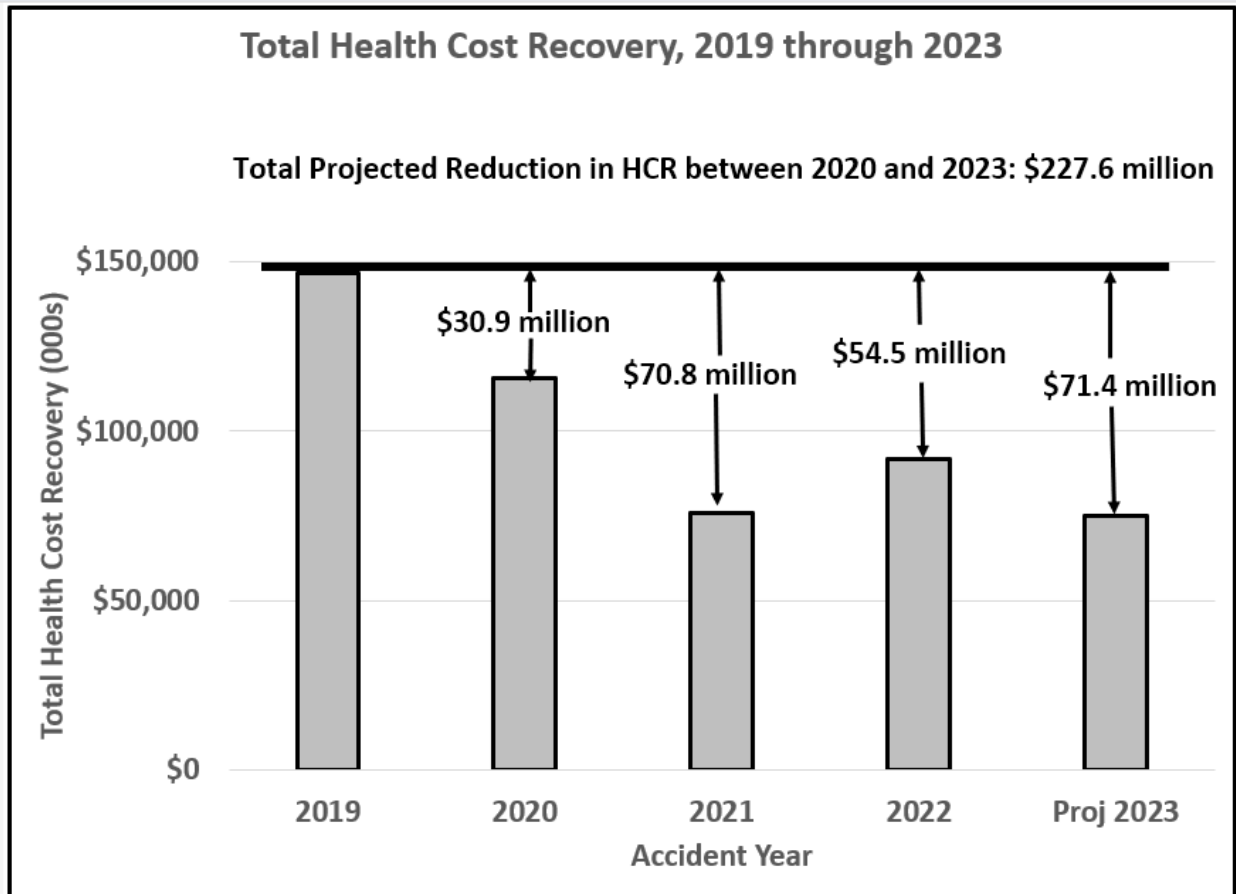
Table 28: Health Cost Recovery by Year

Accident Year	Health Cost Recovery Assessment Factor	Third Party Liability Written Premium (000s)	Health Cost Recovery (000s)
2011	6.99%	\$1,174,169	\$82,074
2012	6.10%	\$1,240,429	\$75,666
2013	4.80%	\$1,329,347	\$63,809
2014	5.00%	\$1,454,717	\$72,736
2015	6.44%	\$1,574,988	\$101,429
2016	5.90%	\$1,696,689	\$100,105
2017	5.67%	\$1,815,070	\$102,914
2018	7.04%	\$1,977,271	\$139,200
2019	6.70%	\$2,185,482	\$146,427
2020	4.74%	\$2,437,321	\$115,529
2021	2.94%	\$2,571,900	\$75,614
2022	3.55%	\$2,588,886	\$91,905
2023	2.86%	\$2,623,766	\$75,040

It can be seen that the assessment factor for 2020, which was announced in December 2019, was set at a lower level than in most of the previous decade. And that the assessment factors for 2021, 2022, and 2023 were set at levels significantly below that.

Figure 12 below shows that since 2019 and projected through 2023, the total amount of Health Cost Recovery cost borne by the private passenger auto insurance industry in Alberta has declined by \$227.6 million. This reduction has increased the pre-tax profits of the industry from what they would have otherwise been.

Figure 12: Projected Reduction in Total Health Cost Recovery 2019 through 2022



C. Industry Costs, Compared to Rising Premiums, 2018 through 2022

Figure 13 below shows yearly revenues (premium and investment income) and costs (loss and LAE, Health Cost Recovery and operating expenses) for the industry from 2011 through 2022.

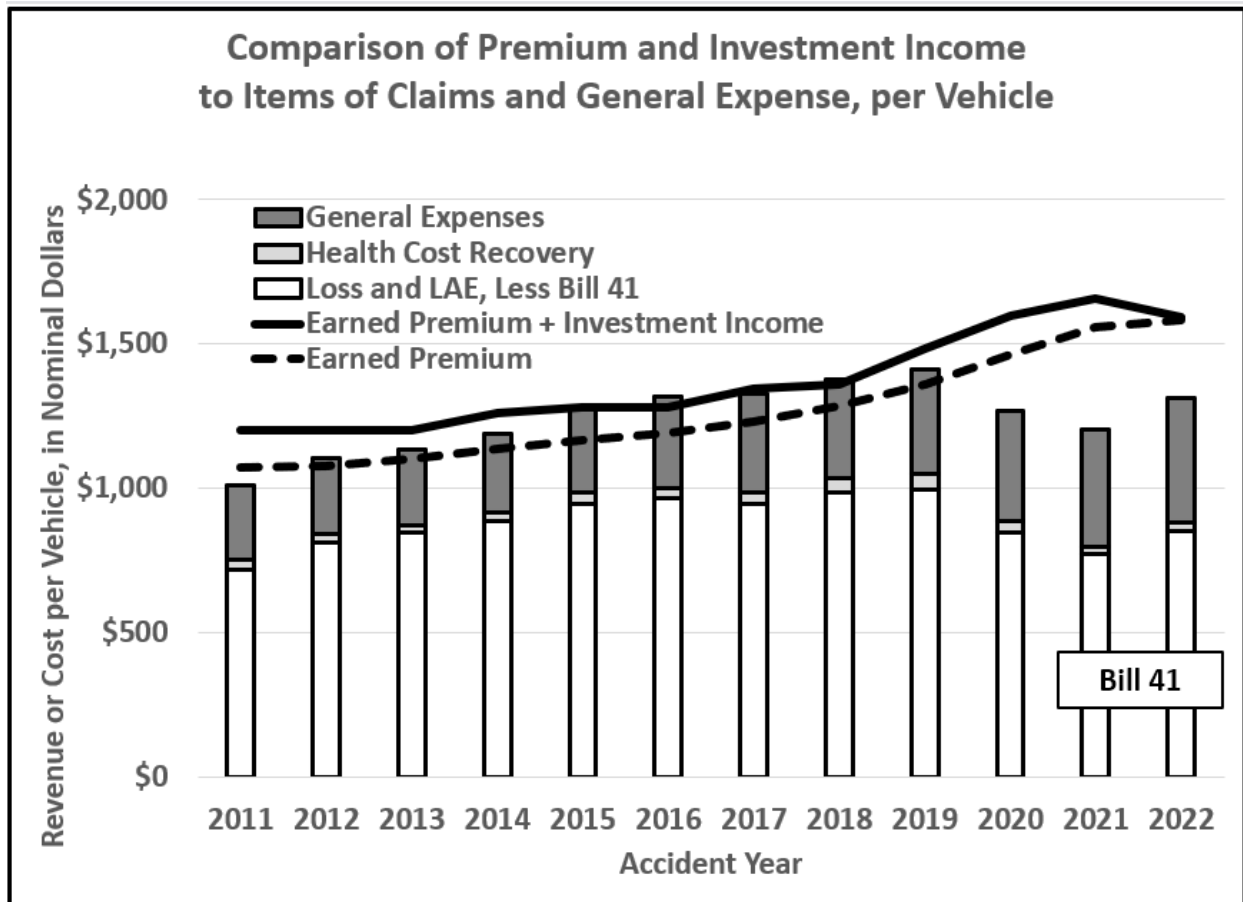
Since 2018, insurers have taken rate increases at greater than the rate of general inflation for the Alberta private passenger auto insurance line. In addition, Bill 41 in late 2020 reduced the costs of bodily injury coverage by strengthening the Minor Injuries Regulation and reducing the rate of prejudgment interest on general damages.

These measures were taken at a time where the costs of claims were rising at the rate of general inflation. While these measures may have been required to remedy the industry’s unprofitability between 2015 and 2018, claims cost stability after 2015 was followed by the COVID-19 pandemic,

which caused a sharp decrease in claims costs beginning in 2020. Further, the average rate of premium per vehicle, adjusted for general inflation, has continued to increase following the decrease in claims costs from 2020 on.

Figure 13 illustrates the divergence between the increase in premium and the decrease in industry costs

Figure 13: Premium, Investment Income, Claims Costs and Operating Expenses per Vehicle, 2011 to 2022 (Not Adjusted for Inflation)



Source: Appendix Table A 8.3

IX. Conclusions

The following are the findings of this analysis.

Finding 1:

The loss and LAE cost per vehicle for third party liability bodily injury coverage and for all coverages combined have been approximately stable, when adjusted for general inflation, for the 2015 through 2019 accident years. Beginning in 2020, the loss and LAE cost for the “moving” coverages has declined sharply in response to the reduction in vehicle traffic caused by the COVID-19 pandemic. Further, Bill 41 reduced the loss and LAE cost per vehicle for bodily injury coverage, beginning in accident year 2021. The effect is to reduce further the rate of increase in bodily injury claims costs.

Finding 2:

Oliver Wyman has proposed that a “New Normal” frequency, at the level seen for accidents in the second half of 2022, may represent an appropriate expectation for frequency levels during the prospective period. This sustained frequency level, for the “moving coverages” of bodily injury, accident benefits and collision, is below the frequency level for the 2019 accident year. It also implies that the current elevated levels of profitability, at current premium levels in the industry, will persist until absorbed over a period of years by inflation in claims and expenses.

Finding 3:

I estimate a “Realized Profit Provision” (a measure defined by Oliver Wyman) of 17.6% for 2022 and 15.7% for 2023. These estimates are significantly higher than the benchmark profit margin of 7%. Oliver Wyman’s estimate of the Realized Profit Provision for 2022 is 9.0%. The primary explanation for my higher estimate in 2022 is that I estimate a lower value for claim dollars for bodily injury and direct compensation.

Finding 4:

Oliver Wyman summarizes past average rates of investment income for the industry on p. 81 of its review, and records that the rate in 2022 was 0.08%. This rate is very low, compared to prior years back to 2015. I note that the average investment income rate in 2022 is as low as it is because of reductions in the value of existing bond holdings, in light of rises in current market

interest rates in 2022. Thus, the rate is not representative of rates of investment income available for new investments made at present.

For purposes of insurance ratemaking, premium amounts brought in by a forthcoming rate program will be newly invested. Thus, the low average rates of investment income shown for 2022 would not be the current basis for the setting of auto insurance.

Finding 5:

It is noted that the frequency of third party property damage coverage, including Alberta's newly implemented direct compensation system for not at fault accidents, has increased in 2022 to a significantly higher level than the frequency for collision coverage. As both coverages would be expected to mirror the overall rate of auto accidents in Alberta (since more than 70% of vehicles in Alberta carry the optional collision coverage) the divergence in the frequency rates raises questions.

While the average premium rate per vehicle for collision coverage has not increased since 2019, the Realized Profit Provision for the coverage has increased from 10% to 29%. Meanwhile, average premium rates for the basic coverages (bodily injury, property damage - direct compensation, accident benefits, underinsured motorists) have increased by 20% since 2019 – an increase much higher than for collision - while the Realized Profit Provision has increased by no more than for collision, from -4% to 15%.

Finding 6:

The recommended benchmark percentage for total expenses was increased to 27.6%, which is increased from 27.1% in 2022 and 26.0% in 2021. Total earned premium increased by 2.9% between 2021 and 2022 and I project a further increase in earned premium of 1.5% between 2022 and 2023. The increase in the benchmark percentage, combined with the increases in premium over that period results in a compounded increase in the amount for expenses. The increased provision for expenses is a result of the benchmark, even though a proportion of expenses can be expected to be fixed with respect to premium.

Appendix

1. Consumer Price Index for Alberta

Table A 1.1: Consumer Price Index for Alberta, and 12-Month Change in CPI

Date	Consumer Price Index, All Items, Alberta	12-Month Change in CPI
December 2013	129.1	
June 2014	132.3	
December 2014	131.5	1.9%
June 2015	134.5	1.7%
December 2015	133.5	1.5%
June 2016	136.3	1.3%
December 2016	134.9	1.0%
June 2017	136.9	0.4%
December 2017	137.6	2.0%
June 2018	140.7	2.8%
December 2018	140.5	2.1%
June 2019	142.7	1.4%
December 2019	143.7	2.3%
June 2020	145.0	1.6%
December 2020	144.8	0.8%
June 2021	148.9	2.7%
December 2021	151.7	4.8%
June 2022	161.4	8.4%
December 2022	160.8	6.0%
June 2023	164.4	1.9%

Source: Statistics Canada

<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810000413>

2. Calculation of Loss and LAE Cost per Vehicle, from Oliver Wyman Report as at December 2022

Table A 2.1: Bodily Injury, Adjusted for 2017 Reserve Change, Ultimate Loss and LAE, by Accident Semester

Acc Semester	[1] Third Party Liability Earned Car Years	[2] Third Party Liability Earned Car Years	[3] Bodily Injury Loss and LAE (000s)	[4] Adj Factor for Case Incurred Loss&LAE 6 to 12 Mos	[5] Adj Factor for Case Incurred Loss&LAE 12 to 18 Mos	[6] Adj Factor for LDF 6 to 12 Mos	[7] Adj Factor for LDF 12 to 18 Mos	[8] Adjusted Bodily Injury Loss and LAE (000s)	[9] Additional Impact of Bill 41	[10] Adjusted Bodily Injury Loss and LAE, Net of Bill 41 (000s)	[11] Adjusted Bodily Injury Loss and LAE, Net of Bill 41 (000s)
2011.1	1,128,675		\$247,030	1.000	1.000	1.000	1.000	\$247,030		\$247,030	
2011.2	1,178,554	2,307,229	\$322,146	1.000	1.000	1.000	1.000	\$322,146		\$322,146	\$569,176
2012.1	1,171,058		\$297,875	1.000	1.000	1.000	1.000	\$297,875		\$297,875	
2012.2	1,220,907	2,391,965	\$359,650	1.000	1.000	1.000	1.000	\$359,650		\$359,650	\$657,525
2013.1	1,210,576		\$323,777	1.000	1.000	1.000	1.000	\$323,777		\$323,777	
2013.2	1,269,780	2,480,356	\$408,231	1.000	1.000	1.000	1.000	\$408,231		\$408,231	\$732,008
2014.1	1,257,016		\$346,872	1.000	1.000	1.000	1.000	\$346,872		\$346,872	
2014.2	1,319,709	2,576,725	\$463,080	1.000	1.000	1.000	1.000	\$463,080		\$463,080	\$809,952
2015.1	1,302,827		\$423,829	1.000	1.000	1.000	1.000	\$423,829		\$423,829	
2015.2	1,349,390	2,652,217	\$526,893	1.000	1.000	1.000	1.000	\$526,893		\$526,893	\$950,722
2016.1	1,324,194		\$459,730	1.000	0.917	1.000	1.000	\$421,572		\$421,572	
2016.2	1,354,518	2,678,712	\$570,485	0.902	0.917	1.000	1.000	\$471,868		\$471,868	\$893,440
2017.1	1,323,273		\$513,926	0.902	0.917	1.000	1.000	\$425,086		\$425,086	
2017.2	1,369,359	2,692,631	\$603,490	0.902	0.917	1.000	1.000	\$499,167		\$499,167	\$924,253
2018.1	1,348,575		\$581,906	0.902	0.917	1.000	1.000	\$481,314		\$481,314	
2018.2	1,399,092	2,747,668	\$641,366	0.902	0.917	1.000	1.000	\$530,496		\$530,496	\$1,011,810
2019.1	1,372,063		\$629,364	0.902	0.917	1.000	1.000	\$520,568		\$520,568	
2019.2	1,410,672	2,782,735	\$708,558	0.902	0.917	1.000	1.000	\$586,072		\$586,072	\$1,106,641
2020.1	1,371,302		\$473,817	0.902	0.917	1.000	1.000	\$391,910		\$391,910	
2020.2	1,408,857	2,780,159	\$523,836	0.902	0.917	1.000	1.000	\$433,283		\$433,283	\$825,193
2021.1	1,380,646		\$431,900	0.902	0.917	1.000	1.000	\$357,239	\$71,794	\$285,446	
2021.2	1,426,182	2,806,828	\$580,600	0.902	0.917	1.000	1.000	\$480,234	\$74,161	\$406,073	\$691,518
2022.1	1,395,504		\$447,933	0.902	1.000	1.000	0.917	\$370,501	\$72,566	\$297,934	
2022.2	1,446,075	2,841,580	\$590,923	1.000	1.000	0.902	0.917	\$488,773	\$75,196	\$413,577	\$711,511

Source:

[1], [3] Oliver Wyman 2023 Annual Review, Appendix B, Page 1, Columns (3), (7)

[8]: [3] x [4] x [5] x [6] x [7]

[9]: [2] x (\$76 - \$39 + \$15) for 2021.1, 2021.2, 2022.1, and 2022.2

[10]: [8] – [9]

Table A 2.2: Property Damage Loss and LAE, Adjusted to Use a Direct Compensation Development Pattern for Accident Semesters 2022.1 and 2022.2

	Accident Semester 2022.1	Accident Semester 2022.2
[1] Case Incurred Loss and ALAE, PD (000s)	\$23,019	\$16,575
[2] Case Incurred Loss and ALAE, DC (000s)	\$165,704	\$234,061
[3] Case Incurred Loss and ALAE, PDDC (000s)	\$188,723	\$250,636
[4] Loss Development Factor, PD, New Brunswick Private Passenger	1.1730	1.2880
[5] Loss Development Factor, DC, New Brunswick Private Passenger	0.9980	1.0120
[6] Ultimate Loss and ALAE, PD (000s)	\$27,002	\$21,349
[7] Ultimate Loss and ALAE, DC (000s)	\$165,373	\$236,870
[8] Ultimate Loss and ALAE, PDDC (000s)	\$192,374	\$258,219
[9] ULAE Adjustment	1.123	1.123
[10] Ultimate Loss and LAE, PDDC (000s)	\$216,036	\$289,979

Source:

[1]: Exhibit AUTO7001-AB-2022, Private Passenger Auto, General Insurance Statistical Agency (GISA), Major Coverage Type TPL, Kind of Loss Code 15

[2]: Exhibit AUTO7001-AB-2022, Private Passenger Auto, General Insurance Statistical Agency (GISA), Major Coverage Type TPL, Kind of Loss Code 12, 14, 16, 17, 18, 19

[3]: [1] + [2]

[4], [5]: Exhibit AUTO1003-ATL-2021, Private Passenger Auto, New Brunswick

[6]: [1] x [4]

[7]: [2] x [5]

[8]: [6] + [7]

[9]: Oliver Wyman 2023 Annual Review, Appendix B, Page 2, Columns (6)

[10]: [8] x [9]

Table A 2.3: Property Damage Claim Count, Adjusted to Use a Direct Compensation Development Pattern for Accident Semesters 2022.1 and 2022.2

	Accident Semester 2022.1	Accident Semester 2022.2
[1] Reported Claim Count, PD	3,964	3,127
[2] Reported Claim Count, DC	27,163	36,196
[3] Reported Claim Count, PDDC	31,127	39,323
[4] Claim Count Development Factor, PD, New Brunswick Private Passenger	1.0780	0.9830
[5] Claim Count Development Factor, DC, New Brunswick Private Passenger	1.0000	1.0330
[6] Ultimate Claim Count, PD	4,273	3,074
[7] Ultimate Claim Count, DC	27,163	37,390
[8] Ultimate Claim Count, PDDC	31,436	40,464

Source:

[1]: Exhibit AUTO7001-AB-2022, Private Passenger Auto, General Insurance Statistical Agency (GISA), Major Coverage Type TPL, Kind of Loss Code 15

[2]: Exhibit AUTO7001-AB-2022, Private Passenger Auto, General Insurance Statistical Agency (GISA), Major Coverage Type TPL, Kind of Loss Code 12, 14, 16, 17, 18, 19

[3]: [1] + [2]

[4], [5]: Exhibit AUTO1003-ATL-2021, Private Passenger Auto, New Brunswick

[6]: [1] x [4]

[7]: [2] x [5]

[8]: [6] + [7]

Table A 2.4: All Coverages, with Bodily Injury Adjusted for 2017 Reserve Change, Ultimate Loss and LAE by Coverage, by Accident Semester

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
Acc Semester	Adjusted Bodily Injury Loss and LAE, Net of Bill 41 (000s)	Property Damage Loss and LAE (000s)	Accident Benefits Loss and LAE (000s)	Collision Loss and LAE (000s)	Comprehensive Loss and LAE (000s)	All Perils Loss and LAE (000s)	Specifd. Perils Loss and LAE (000s)	Underinsd Motorsts Loss and LAE (000s)	All Covgs Loss and LAE (000s)	All Covgs Loss and LAE (000s)
2011.1	\$247,030	\$179,038	\$39,474	\$2,413	\$201,608	\$79,725	\$3,760	\$211	\$753,259	
2011.2	\$322,146	\$175,584	\$49,095	\$8,107	\$186,655	\$152,997	\$5,000	\$384	\$899,968	\$1,653,227
2012.1	\$297,875	\$163,961	\$44,216	\$3,802	\$177,198	\$84,550	\$2,907	\$201	\$774,710	
2012.2	\$359,650	\$207,611	\$59,734	\$8,883	\$225,593	\$296,855	\$5,893	\$740	\$1,164,959	\$1,939,669
2013.1	\$323,777	\$185,267	\$45,652	\$2,564	\$200,860	\$138,291	\$5,102	\$350	\$901,863	
2013.2	\$408,231	\$225,854	\$58,760	\$4,087	\$250,526	\$238,482	\$5,148	\$360	\$1,191,448	\$2,093,311
2014.1	\$346,872	\$201,128	\$46,047	\$2,332	\$222,563	\$90,871	\$3,636	\$288	\$913,737	
2014.2	\$463,080	\$231,158	\$61,500	\$6,495	\$259,945	\$344,014	\$6,825	\$649	\$1,373,666	\$2,287,403
2015.1	\$423,829	\$215,486	\$57,900	\$9,659	\$239,565	\$118,499	\$4,190	\$281	\$1,069,409	
2015.2	\$526,893	\$234,181	\$77,078	\$8,986	\$256,360	\$333,433	\$6,200	\$589	\$1,443,720	\$2,513,129
2016.1	\$421,572	\$195,601	\$58,956	\$6,542	\$218,795	\$188,986	\$4,190	\$482	\$1,095,124	
2016.2	\$471,868	\$228,647	\$80,731	\$11,499	\$272,633	\$413,808	\$7,001	\$675	\$1,486,862	\$2,581,986
2017.1	\$425,086	\$224,524	\$77,972	\$5,772	\$259,995	\$148,770	\$4,775	\$403	\$1,147,297	
2017.2	\$499,167	\$242,141	\$89,953	\$10,489	\$286,259	\$263,333	\$5,196	\$742	\$1,397,280	\$2,544,577
2018.1	\$481,314	\$246,979	\$92,973	\$8,156	\$288,069	\$141,313	\$5,204	\$562	\$1,264,570	
2018.2	\$530,496	\$235,395	\$90,307	\$6,848	\$286,147	\$279,225	\$6,144	\$657	\$1,435,219	\$2,699,789
2019.1	\$520,568	\$234,856	\$92,989	\$7,373	\$282,546	\$142,326	\$4,199	\$446	\$1,285,303	
2019.2	\$586,072	\$237,181	\$108,699	\$8,219	\$276,687	\$266,288	\$6,135	\$609	\$1,489,890	\$2,775,193
2020.1	\$391,910	\$161,085	\$72,740	\$3,327	\$193,813	\$396,129	\$4,781	\$896	\$1,224,681	
2020.2	\$433,283	\$160,157	\$93,687	\$10,311	\$185,656	\$233,623	\$3,973	\$689	\$1,121,379	\$2,346,060
2021.1	\$285,446	\$154,773	\$84,779	\$6,075	\$160,626	\$122,229	\$3,575	\$512	\$818,015	
2021.2	\$406,073	\$217,657	\$126,918	\$9,431	\$251,515	\$325,807	\$8,003	\$961	\$1,346,365	\$2,164,380
2022.1	\$297,934	\$216,036	\$108,478	\$5,183	\$208,208	\$170,684	\$6,359	\$645	\$1,013,527	
2022.2	\$413,577	\$289,979	\$146,431	\$9,878	\$211,212	\$317,368	\$9,543	\$1,140	\$1,399,128	\$2,412,655

Source:

[1]: Appendix Table A 2.1, Column [10]

[2]: For 2011.1 to 2021.2, Oliver Wyman Annual Review, Appendix B, Page 2, Column (7)

For 2022.1 and 2022.2, Table A 2.2, Row [10]

[3] to [8]: Oliver Wyman 2023 Annual Review, Appendix B, Column (7)

[9]: Sum of Columns [1] through [8]

Table A 2.5: Ultimate Loss and LAE Cost per Earned Vehicle by Accident Year, in 2016 Dollars

Accident Year	[1] Oliver Wyman Bodily Injury Loss and LAE Cost per Earned Vehicle	[2] Adjusted Bodily Injury Loss and LAE Cost per Earned Vehicle	[3] All Coverages Adjusted Loss and LAE Cost per Earned Vehicle	[4] Alberta CPI (June)	[5] Alberta CPI 2016	[6] Oliver Wyman Bodily Injury Loss and LAE Cost per Earned Vehicle, in 2016 Dollars	[7] Adjusted Bodily Injury Loss and LAE Cost per Earned Vehicle, in 2016 Dollars	[8] All Coverages Adjusted Loss and LAE Cost per Earned Vehicle, in 2016 Dollars
2011	\$247	\$247	\$717	125.3	135.2	\$266	\$266	\$773
2012	\$275	\$275	\$811	126.9	135.2	\$293	\$293	\$864
2013	\$295	\$295	\$844	129.8	135.2	\$307	\$307	\$879
2014	\$314	\$314	\$888	132.3	135.2	\$321	\$321	\$907
2015	\$358	\$358	\$948	134.5	135.2	\$360	\$360	\$952
2016	\$385	\$334	\$964	136.3	135.2	\$381	\$331	\$956
2017	\$415	\$343	\$945	136.9	135.2	\$410	\$339	\$933
2018	\$445	\$368	\$983	140.7	135.2	\$428	\$354	\$944
2019	\$481	\$398	\$997	142.7	135.2	\$456	\$377	\$945
2020	\$359	\$297	\$844	145.0	135.2	\$335	\$277	\$787
2021	\$361	\$246	\$771	148.9	135.2	\$328	\$224	\$700
2022	\$366	\$250	\$849	161.4	135.2	\$306	\$210	\$711

Source:

[1]: Oliver Wyman 2023 Annual Review, Appendix B, Page 1, Column (14)

[2]: Appendix Table A 2.1, Column [11]/ Appendix Table A 2.1, Column [2]

[3]: Appendix Table A 2.4, Column [10]/ Appendix Table A 2.1, Column [2]

[6]: [1] x [5] / [4]

[7]: [2] x [5] / [4]

[8]: [3] x [5] / [4]

Table A 2.6: Frequency per 1,000 Vehicles for Property Damage – Direct Compensation , Collision, and Bodily Injury

Accident Year	[1] TPL Earned Vehicles	[2] Collision Earned Vehicles	[3] PDDC Claim Count	[4] Collision Claim Count	[5] Bodily Injury Claim Count	[6] PDDC Freqcy per 1,000 Vehicles	[7] Collision Freqcy per 1,000 Vehicles	[8] Bodily Injury Freqcy per 1,000 Vehicles
2011	2,307,229	1,713,473	75,132	78,499	14,024	32.56	45.81	6.08
2012	2,391,965	1,772,518	75,097	76,780	14,401	31.40	43.32	6.02
2013	2,480,356	1,842,849	81,674	81,926	15,787	32.93	44.46	6.36
2014	2,576,725	1,918,765	83,844	82,065	16,386	32.54	42.77	6.36
2015	2,652,217	1,971,290	83,695	80,382	16,925	31.56	40.78	6.38
2016	2,678,712	1,980,766	78,916	78,030	16,809	29.46	39.39	6.28
2017	2,692,631	1,989,815	82,820	83,737	17,652	30.76	42.08	6.56
2018	2,747,668	2,029,423	83,129	87,554	17,491	30.25	43.14	6.37
2019	2,782,735	2,046,163	79,860	86,468	17,969	28.70	42.26	6.46
2020	2,780,159	2,028,790	53,997	56,076	12,014	19.42	27.64	4.32
2021	2,806,828	2,032,634	56,561	54,042	13,340	20.15	26.59	4.75
2022	2,841,580	2,055,647	71,900	49,379	12,861	25.30	24.02	4.53

Source:

[1], [2], [4], [5]: Oliver Wyman 2023 Annual Review, Appendix B

[3]: Oliver Wyman 2023 Annual Review for 2011 to 2021, Appendix B and Appendix Table A 2.3 for 2022

[6]: $[3]/[1] \times 1,000$

[7]: $[4]/[2] \times 1,000$

[8]: $[5]/[1] \times 1,000$

Table A 2.7: Loss and LAE Cost per Vehicle (\$2016) for Property Damage – Direct Compensation, Collision, and Bodily Injury

Accident Year	[1] PDDC Loss and LAE (000s)	[2] Collision Loss and LAE (000s)	[3] Bodily Injury Loss and LAE (000s)	[4] Alberta CPI, June of Accident Year	[5] Alberta CPI, 2016	[6] PDDC Loss and LAE per Vehicle, 2016 Dollars	[7] Collision Loss and LAE per Vehicle, 2016 Dollars	[8] Bodily Injury Loss and LAE per Vehicle, 2016 Dollars
2011	\$354,622	\$388,263	\$569,176	125.3	135.2	\$165.84	\$181.58	\$266.18
2012	\$371,572	\$402,791	\$657,525	126.9	135.2	\$165.50	\$179.41	\$292.87
2013	\$411,121	\$451,386	\$732,008	129.8	135.2	\$172.65	\$189.56	\$307.40
2014	\$432,286	\$482,508	\$809,952	132.3	135.2	\$171.44	\$191.36	\$321.22
2015	\$449,667	\$495,925	\$950,722	134.5	135.2	\$170.43	\$187.96	\$360.33
2016	\$424,248	\$491,428	\$893,440	136.3	135.2	\$157.10	\$181.98	\$330.84
2017	\$466,665	\$546,254	\$924,253	136.9	135.2	\$171.16	\$200.35	\$338.99
2018	\$482,374	\$574,216	\$1,011,810	140.7	135.2	\$168.70	\$200.81	\$353.85
2019	\$472,037	\$559,233	\$1,106,641	142.7	135.2	\$160.72	\$190.40	\$376.78
2020	\$321,242	\$379,469	\$825,193	145.0	135.2	\$107.74	\$127.27	\$276.75
2021	\$372,430	\$412,141	\$691,518	148.9	135.2	\$120.48	\$133.33	\$223.70
2022	\$506,015	\$419,420	\$711,511	161.4	135.2	\$149.17	\$123.64	\$209.75

[1]: Oliver Wyman 2023 Annual Review, Appendix B for 2011 to 2021, Appendix Table A2.2 for 2022

[2]: Oliver Wyman 2023 Annual Review, Appendix B

[3]: Appendix Table A 2.1, Column [11]

[6]: [1]/(Appendix Table A 2.6, Column [1]) x [5] / [4]

[7]: [2]/(Appendix Table A 2.6, Column [2]) x [5] / [4]

[8]: [3]/(Appendix Table A 2.6, Column [1]) x [5] / [4]

3. Development of Ultimate Loss and LAE, Bodily Injury, Dec 2017 to Dec 2022, Accident Years 2011 through 2019

Table A 3.1: Percentage Change in Oliver Wyman Ultimate Loss and LAE, Bodily Injury, Dec 2017 to Dec. 2022, Accident Years 2011 through 2019

Acc Year	[1] Oliver Wyman Annual Ult Loss Cost and LAE, Bodily Injury, as at Dec 2017	[2] Oliver Wyman Annual Ult Loss Cost and LAE, Bodily Injury, as at Dec 2019	[3] Oliver Wyman Annual Ult Loss Cost and LAE, Bodily Injury, as at Dec 2020	[4] Oliver Wyman Annual Ult Loss Cost and LAE, Bodily Injury, as at Dec 2021	[5] Oliver Wyman Annual Ult Loss Cost and LAE, Bodily Injury, as at Dec 2022	[6] Pctge Change Dec-17 to Dec-22	[7] Pctge Change Dec-19 to Dec-20	[8] Pctge Change Dec-20 to Dec-21	[9] Pctge Change Dec-21 to Dec-22
2011	\$248.42	\$248.31	\$247.47	\$246.79	\$246.69	-0.7%	-0.3%	-0.3%	0.0%
2012	\$282.13	\$279.79	\$277.34	\$274.92	\$274.89	-2.6%	-0.9%	-0.9%	0.0%
2013	\$312.63	\$300.88	\$298.66	\$295.46	\$295.12	-5.6%	-0.7%	-1.1%	-0.1%
2014	\$343.92	\$325.26	\$319.85	\$313.77	\$314.33	-8.6%	-1.7%	-1.9%	+0.2%
2015	\$400.07	\$361.62	\$360.72	\$355.71	\$358.46	-10.4%	-0.2%	-1.4%	+0.8%
2016	\$431.49	\$390.65	\$391.36	\$384.57	\$384.59	-10.9%	+0.2%	-1.7%	0.0%
2017	\$439.97	\$425.29	\$423.35	\$415.07	\$414.99	-5.7%	-0.5%	-2.0%	0.0%
2018		\$441.77	\$455.05	\$440.90	\$445.20			-3.1%	+1.0%
2019		\$456.01	\$472.92	\$466.67	\$480.79			-1.3%	+3.0%

Sources:

- [1]: Oliver Wyman 2018 Annual Review, Appendix B, Page 1, Column (14)
- [2]: Oliver Wyman 2020 Annual Review, Appendix B, Page 1, Column (14)
- [3]: Oliver Wyman 2021 Annual Review, Appendix B, Page 1, Column (14)
- [4]: Oliver Wyman 2022 Annual Review, Appendix B, Page 1, Column (14)
- [5]: Oliver Wyman 2023 Annual Review, Appendix B, Page 1, Column (14)
- [6]: [5] / [1] - 1
- [7]: [3] / [2] - 1
- [8]: [4] / [3] - 1
- [9]: [5] / [4] - 1

4. Paid Claim Dollars and Closed Claim Counts, Bodily Injury

Table A 4.1: Ultimate Incurred and Paid Dollars and Ultimate and Closed Claim Counts, by Accident Semester, Bodily Injury

Accident Semester	[1] Third Party Liability Earned Car Years	[2] Adjusted Bodily Injury Ultimate Incurred Loss and LAE (000s)	[3] Bodily Injury Paid Loss and ALAE (000s)	[4] Bodily Injury Ultimate Claim Count	[5] Bodily Injury Closed Claim Count
2011.1	1,128,675	\$247,030	\$223,435	7,015	7,013
2011.2	1,178,554	\$322,146	\$292,099	7,009	7,010
2012.1	1,171,058	\$297,875	\$268,022	6,658	6,657
2012.2	1,220,907	\$359,650	\$321,481	7,743	7,733
2013.1	1,210,576	\$323,777	\$288,705	7,172	7,164
2013.2	1,269,780	\$408,231	\$359,332	8,615	8,602
2014.1	1,257,016	\$346,872	\$306,006	7,567	7,556
2014.2	1,319,709	\$463,080	\$403,973	8,819	8,798
2015.1	1,302,827	\$423,829	\$357,588	8,095	8,058
2015.2	1,349,390	\$526,893	\$435,965	8,830	8,758
2016.1	1,324,194	\$421,572	\$382,068	7,755	7,672
2016.2	1,354,518	\$471,868	\$441,929	9,054	8,875
2017.1	1,323,273	\$425,086	\$380,285	8,616	8,425
2017.2	1,369,359	\$499,167	\$421,032	9,036	8,694
2018.1	1,348,575	\$481,314	\$355,539	8,698	8,222
2018.2	1,399,092	\$530,496	\$349,277	8,793	8,073
2019.1	1,372,063	\$520,568	\$285,975	8,883	7,878
2019.2	1,410,672	\$586,072	\$264,257	9,086	7,652
2020.1	1,371,302	\$391,910	\$146,713	5,877	4,655
2020.2	1,408,857	\$433,283	\$100,464	6,137	4,317
2021.1	1,380,646	\$285,446	\$43,957	5,702	3,238
2021.2	1,426,182	\$406,073	\$33,394	7,638	3,192
2022.1	1,395,504	\$297,934	\$11,893	5,878	1,413
2022.2	1,446,075	\$413,577	\$2,165	6,983	316

Sources:

[1], [3], [5]:

Exhibit AUTO7001-AB-2021, General Insurance Statistical Agency (GISA)

[2]: Appendix Table A 2.1 Column [10]

[4]: Oliver Wyman 2023 Annual Review, Appendix B, Page 1, Column (4)

Table A 4.2: Ultimate Incurred and Paid Dollars and Ultimate and Closed Claim Counts, by Accident Year, Bodily Injury

	[1]	[2]	[3]	[4]	[5]	[6]
Accident Year	Third Party Liability Earned Car Years	Adjusted Bodily Injury Ultimate Incurred Loss and LAE (000s)	Bodily Injury Paid Loss and ALAE (000s)	Bodily Injury Ultimate Claim Count	Bodily Injury Closed Claim Count	Bodily Injury Closed Claim Count as Pct of Ultimate
2011	2,307,229	\$569,176	\$515,534	14,024	14,023	100%
2012	2,391,965	\$657,525	\$589,503	14,401	14,390	100%
2013	2,480,356	\$732,008	\$648,037	15,787	15,766	100%
2014	2,576,725	\$809,952	\$709,979	16,386	16,354	100%
2015	2,652,217	\$950,722	\$793,553	16,925	16,816	99%
2016	2,678,712	\$893,440	\$823,996	16,809	16,547	98%
2017	2,692,631	\$924,253	\$801,317	17,652	17,119	97%
2018	2,747,668	\$1,011,810	\$704,816	17,491	16,295	93%
2019	2,782,735	\$1,106,641	\$550,232	17,969	15,530	86%
2020	2,780,159	\$825,193	\$247,177	12,014	8,972	75%
2021	2,806,828	\$691,518	\$77,351	13,340	6,430	48%
2022	2,841,580	\$711,511	\$14,058	12,861	1,729	13%

Source:

[1], [3], [5]: Exhibit AUTO7001-AB-2022, General Insurance Statistical Agency (GISA)

[2]: Appendix Table A 2.1 Column [11]

[4]: Oliver Wyman 2022 Annual Review, Appendix B, Page 1, Column (4)

[6]: [5]/[4]

Table A 4.3: Paid and Ultimate Loss and LAE per Vehicle, Nominal and in 2016 Dollars, Bodily Injury

Accident Year	[1] Adjusted Bodily Injury Ultimate Loss and LAE per Vehicle	[2] Bodily Injury Paid Loss and ALAE per Vehicle	[3] Alberta CPI (June)	[4] Alberta CPI (Avg for 2016)	[5] Adjusted Bodily Injury Ultimate Loss and LAE per Vehicle in 2016 Dollars	[6] Bodily Injury Paid Loss and ALAE per Vehicle, in 2016 Dollars	[7] Bodily Injury Loss and ALAE Paid as Pct of Ultimate, in 2016 Dollars
2011	\$247	\$223	125.3	135.2	\$266	\$241	91%
2012	\$275	\$246	126.9	135.2	\$293	\$263	90%
2013	\$295	\$261	129.8	135.2	\$307	\$272	89%
2014	\$314	\$276	132.3	135.2	\$321	\$282	88%
2015	\$358	\$299	134.5	135.2	\$360	\$301	83%
2016	\$334	\$308	136.3	135.2	\$381	\$305	92%
2017	\$343	\$298	136.9	135.2	\$410	\$294	87%
2018	\$368	\$257	140.7	135.2	\$428	\$246	70%
2019	\$398	\$198	142.7	135.2	\$456	\$187	50%
2020	\$297	\$89	145.0	135.2	\$335	\$83	30%
2021	\$246	\$28	148.9	135.2	\$328	\$25	11%
2022	\$250	\$5	161.4	135.2	\$306	\$4	2%

Source:

[1]: Appendix Table A 4.2 Column [2]/ Table A 4.2 Column [1]

[2]: Appendix Table A 4.2 Column [3]/ Table A 4.2 Column [1]

[5]: [1] x [4] / [3]

[6]: [2] x [4] / [3]

[7]: [6] / [5]

5. Calculation of Ultimate Loss and LAE Amounts, Adjusted for Change in Loss Development Pattern, Bodily Injury

Table A 5.1: Calculation of Adjustment Factors for Change in Loss Development Pattern, 6-12 Months

Accident Semester	[1] Case Incurred Loss and ALAE, Age 6 Months (in Thousands)	[2] Case Incurred Loss and ALAE, Age 12 Months (in Thousands)	[3] Weighted Average Age- to-Age Ratio
2012.2	\$147,335	\$177,626	
2013.1	\$122,754	\$150,964	
2013.2	\$158,085	\$201,330	
2014.1	\$139,295	\$170,205	
2014.2	\$181,499	\$220,251	
2015.1	\$157,887	\$199,168	
2015.2	\$193,905	\$242,166	
2016.1	\$156,971	\$197,097	
Subtotal for Pre-2017 Calendar Period	\$1,257,731	\$1,558,808	1.239
2016.2	\$174,369	\$251,531	
2017.1	\$169,629	\$229,155	
2017.2	\$202,756	\$277,054	
2018.1	\$197,315	\$242,619	
2018.2	\$199,756	\$278,187	
2019.1	\$182,157	\$257,440	
2019.2	\$210,044	\$292,335	
2020.1	\$136,475	\$188,186	
2020.2	\$161,095	\$212,770	
2021.1	\$135,089	\$172,869	
	\$155,031	\$229,886	
	\$122,586	\$180,589	
Subtotal for 2017-and- Later Calendar Period	\$2,046,302	\$2,812,621	1.374

Adjustment Factor = $1.239 / 1.374 = 0.902$

Sources:

[1], [2]: Exhibit AUTO7001-AB-2022, General Insurance Statistical Agency (GISA)

Table A 5.2: Calculation of Adjustment Factor for Change in Loss Development Pattern, 12-18 Months

Accident Semester	[1] Case Incurred Loss and ALAE, Age 12 Months (in Thousands)	[2] Case Incurred Loss and ALAE, Age 18 Months (in Thousands)	[3] Weighted Average Age- to-Age Ratio
2012.2	\$161,246	\$164,395	
2012.2	\$177,626	\$190,638	
2013.1	\$150,964	\$162,433	
2013.2	\$201,330	\$213,249	
2014.1	\$170,205	\$184,617	
2014.2	\$220,251	\$243,195	
2015.1	\$199,168	\$213,997	
2015.2	\$242,166	\$266,694	
Subtotal for Pre-2017 Calendar Period	\$1,522,956	\$1,639,217	1.076
2016.1	\$197,097	\$238,040	
2016.2	\$251,531	\$300,285	
2017.1	\$229,155	\$267,360	
2017.2	\$277,054	\$306,885	
2018.1	\$242,619	\$277,037	
2018.2	\$278,187	\$327,553	
2019.1	\$257,440	\$306,207	
2019.2	\$292,335	\$340,118	
2020.1	\$188,186	\$224,050	
2020.2	\$212,770	\$251,136	
2021.1	\$172,869	\$205,772	
2021.2	\$229,886	\$277,253	
Subtotal for 2017-and- Later Calendar Period	\$2,829,129	\$3,321,695	1.174

Adjustment Factor = 1.076 / 1.174 = 0.917

Sources:

[1], [2]: Exhibit AUTO7001-AB-2022, General Insurance Statistical Agency (GISA)

6. Realized Impact of Bill 41

Table A 6.1: Impact of Bill 41 on Recognized Bodily Injury Loss and LAE to Date

Acc Yr	[1] Earned Vehicles	[2] Incurred Loss and LAE (000s)	[3] Claim Count	[4] Severity	[5] Alberta CPI (June)	[6] Alberta CPI for 2021	[7] Severity in 2021 Dollars	[8] Reduction in Severity from 2021 Level, in 2021 Dollars	[9] Reduction in Loss and LAE Cost per Vehicle
2017	2,692,631	\$924,253	17,652	\$52,360	136.9	149.3	\$57,102		
2018	2,747,668	\$1,011,810	17,491	\$57,847	140.7	149.3	\$61,383		
2019	2,782,735	\$1,106,641	17,969	\$61,586	142.7	149.3	\$64,435		
2020	2,780,159	\$825,193	12,014	\$68,686	145.0	149.3	\$70,723		
2021	2,806,828	\$837,473	13,340	\$62,779	148.9	149.3	\$62,948	\$7,775	\$37
2022	2,841,580	\$859,273	12,861	\$66,812	161.4	149.3	\$61,803	\$8,919	\$40
2021- 2022 comb'd	5,648,407	\$1,696,746	26,201				\$62,386	\$8,337	\$39

Sources:

[1]: Exhibit AUTO7001-AB-2022, General Insurance Statistical Agency (GISA)

[2]: Appendix Table A 2.1, Column [8]

[3]: Appendix Table A 4.2, Column [4]

[4]: [2] / [3]

[7]: [4] x [6] / [5]

[8]: [7]₂₀₂₀ - [7]_{Acc Yr}

[9]: [8] x [3] / [1]

7. Growth in Operating Expenses

Table A 7.1: Growth in Operating Expenses per Vehicle by Category, 2014 to 2023

[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	
Acci- dent Year	Earned Premium per Earned Vehicle	Benchmark	Oper- ating Expense Pct	Oper- ating Expense per Earned Vehicle	Pct Increase in Oper Exp per Vehicle	General Expense Pct	General Expense per Earned Vehicle	Pct Increase in General Exp per Vehicle	Com- missions and Other Acqn Expense Pct	Com- missions and Other Acqn Expense per Earned Vehicle	Pct Increase in Com- missions and Other Acqn Exp per Vehicle
2014	\$1,134	April 2015	24.2%	\$275		6.3%	\$71.47		15.1%	\$171	
2015	\$1,165	April 2016	25.4%	\$296	7.8%	6.3%	\$73.38	2.7%	15.1%	\$176	2.7%
2016	\$1,189	April 2017	26.7%	\$318	7.3%	7.0%	\$83.26	13.5%	15.7%	\$187	6.2%
2017	\$1,229	April 2018	27.8%	\$342	7.6%	7.8%	\$95.84	15.1%	16.0%	\$197	5.3%
2018	\$1,283	April 2019	26.6%	\$341	-0.1%	7.5%	\$96.20	0.4%	15.1%	\$194	-1.5%
2019	\$1,359	April 2020	26.7%	\$363	6.4%	7.5%	\$101.96	6.0%	15.2%	\$207	6.7%
2020	\$1,463	April 2021	26.0%	\$380	4.8%	7.2%	\$105.34	3.3%	15.1%	\$221	6.9%
2021	\$1,556	April 2022	26.0%	\$405	6.3%	7.1%	\$110.47	4.9%	15.2%	\$237	7.1%
2022	\$1,582	April 2023	27.1%	\$429	6.0%	7.5%	\$118.63	7.4%	15.8%	\$250	5.7%
2023	\$1,606	Oliver Wyman Annual Review 2023	27.6%	\$443	3.4%	7.5%	\$120.45	1.5%	16.4%	\$263	5.4%

Source:

[1]: Exhibit AUTO7001-AB-2022, General Insurance Statistical Agency (GISA)

[2]: The April after the end of the Accident Year

[3], [6], [9]: Operating Expenses Section, Oliver Wyman Reports

[4]: [1] x [3]

[7]: [1] x [6]

[10]: [1] x [9]

[5], [8], [11]: Pct Increase in [4], [7], [10] respectively

Table A 7.2: Growth in Claims Costs per Vehicle

Accident Year	[1] All Coverages Loss and LAE Cost per Earned Vehicle	[2] Pct. Increase in All-Coverages Loss and LAE per Earned Vehicle
2014	\$888	
2015	\$948	6.8%
2016	\$964	1.7%
2017	\$945	-2.0%
2018	\$983	4.0%
2019	\$997	1.4%
2020	\$844	-15.3%
2021	\$771	-8.6%
2022	\$849	10.1%

[1]: Appendix Table A 2.5, Column [3]

[2]: Pct. Increase in [1]

8. Industry Costs, Compared to Rising Premiums, 2018 through 2022

Table A 8.1: Items of Revenue and Expense, in Nominal Dollars

Accident Year	[1] Earned Vehicles	[2] Earned Premium (000s)	[3] Investment Income (000s)	[4] Incurred Loss and LAE (000s)	[5] Health Cost Recovery (000s)	[6] Operating Expenses (000s)
2011	2,307,229	\$2,476,448	\$297,481	\$1,653,227	\$82,074	\$599,300
2012	2,391,965	\$2,579,374	\$288,176	\$1,939,669	\$75,666	\$624,209
2013	2,480,356	\$2,729,239	\$242,944	\$2,093,311	\$63,809	\$660,476
2014	2,576,725	\$2,923,180	\$321,833	\$2,287,403	\$72,736	\$707,410
2015	2,652,217	\$3,089,322	\$303,686	\$2,513,129	\$101,429	\$784,688
2016	2,678,712	\$3,186,081	\$244,856	\$2,581,986	\$100,105	\$850,684
2017	2,692,631	\$3,308,497	\$307,146	\$2,544,577	\$102,914	\$919,762
2018	2,747,668	\$3,524,505	\$203,812	\$2,699,789	\$139,200	\$937,518
2019	2,782,735	\$3,782,861	\$350,991	\$2,775,194	\$146,427	\$1,010,024
2020	2,780,159	\$4,067,651	\$368,061	\$2,346,060	\$115,529	\$1,057,589
2021	2,806,828	\$4,367,273	\$284,407	\$2,164,379	\$75,614	\$1,135,491
2022	2,841,580	\$4,494,690	\$31,423	\$2,412,655	\$91,905	\$1,218,061

Source:

[1], [2]: Exhibit AUTO7001-AB-2022, General Insurance Statistical Agency (GISA)

[3]: Tables A 9.1, A 9.2, Row [16] + Row [17]

[4]: Table A 2.4, Column [10]

[5]: Tables A 9.1, A 9.2, Row [8]

[6]: Tables A 9.1, A 9.2, Row [5]

Table A 8.2: Items of Revenue and Expense, per Vehicle, in Nominal Dollars

Accident Year	[1] Earned Premium per Vehicle	[2] Earned Premium plus Investment Income per Vehicle	[3] Incurred Loss and LAE per Vehicle	[4] Health Cost Recovery per Vehicle	[5] Operating Expenses per Vehicle
2011	\$1,073	\$1,202	\$717	\$36	\$260
2012	\$1,078	\$1,199	\$811	\$32	\$261
2013	\$1,100	\$1,198	\$844	\$26	\$266
2014	\$1,134	\$1,259	\$888	\$28	\$275
2015	\$1,165	\$1,279	\$948	\$38	\$296
2016	\$1,189	\$1,281	\$964	\$37	\$318
2017	\$1,229	\$1,343	\$945	\$38	\$342
2018	\$1,283	\$1,357	\$983	\$51	\$341
2019	\$1,359	\$1,486	\$997	\$53	\$363
2020	\$1,463	\$1,595	\$844	\$42	\$380
2021	\$1,556	\$1,657	\$771	\$27	\$405
2022	\$1,582	\$1,593	\$849	\$32	\$429

Source:

[1]: Table A 8.1, [2] / [1]

[2]: Table A 8.1, ([2] + [3]) / [1]

[3]: Table A 8.1, [4] / [1]

[4]: Table A 8.1, [5] / [1]

[5]: Table A 8.1, [6] / [1]

Table A 8.3: Items of Revenue and Expense, per Vehicle, in 2016 Dollars

Accident Year	[1] Earned Premium per Vehicle, in 2016 Dollars	[2] Earned Premium plus Investment Income per Vehicle in 2016 Dollars	[3] Incurred Loss and LAE per Vehicle in 2016 Dollars	[4] Health Cost Recovery per Vehicle in 2016 Dollars	[5] Operating Expenses per Vehicle in 2016 Dollars
2011	\$1,158	\$1,297	\$773	\$38	\$280
2012	\$1,149	\$1,277	\$864	\$34	\$278
2013	\$1,146	\$1,248	\$879	\$27	\$277
2014	\$1,159	\$1,287	\$907	\$29	\$281
2015	\$1,171	\$1,286	\$952	\$38	\$297
2016	\$1,180	\$1,270	\$956	\$37	\$315
2017	\$1,213	\$1,326	\$933	\$38	\$337
2018	\$1,233	\$1,304	\$944	\$49	\$328
2019	\$1,288	\$1,407	\$945	\$50	\$344
2020	\$1,364	\$1,488	\$787	\$39	\$355
2021	\$1,413	\$1,505	\$700	\$24	\$367
2022	\$1,325	\$1,334	\$711	\$27	\$359

Source:

Table A 8.2, Adjusted to 2016 CPI

9. Profit and Loss for the Alberta Private Passenger Auto Insurance Industry

A. 2019 to 2023 Pre-Tax Profit, Based on Oliver Wyman Claims Costs, Dec. 2022 Analysis, Adjusted for 2017 Loss Development Pattern Change

Table A 9.1: Estimated Pre-Tax Profit and Loss, 2020, 2021, 2022 and Projection for 2023

(Dollar Amounts in Thousands)

	2019	2020	2021	2022	Projected 2023	Total for 2020-2023
[1] Premium Earned, Current Year ⁽¹⁾	\$3,782,861	\$4,067,651	\$4,367,273	\$4,494,690	\$4,563,737	
[2] Premium Earned, Prior Year ⁽¹⁾	\$3,524,505	\$3,782,861	\$4,067,651	\$4,367,273	\$4,494,690	
[3] Claims ⁽²⁾	\$2,775,194	\$2,346,060	\$2,164,379	\$2,412,655	\$2,671,951	
[4] Expense Ratio ⁽³⁾	26.7%	26.0%	26.0%	27.1%	27.6%	
[5] Operating Expenses = [1] * [4]	\$1,010,024	\$1,057,589	\$1,135,491	\$1,218,061	\$1,259,592	
[6] TPL Premium Written ⁽¹⁾	\$2,185,482	\$2,437,321	\$2,571,900	\$2,588,886	\$2,623,766	
[7] Health Cost Recovery Pct	6.70%	4.74%	2.94%	3.55%	2.86%	
[8] Health Cost Recovery \$ = [6] * [7]	\$146,427	\$115,529	\$75,614	\$91,905	\$75,040	
[9] U/W Profit = [1] – [3] – [5] – [8]	-\$148,784	\$548,473	\$991,789	\$772,068	\$557,155	
[10] Premium Leverage ⁽⁴⁾	1.01	1.04	1.00	1.00	1.00	
[11] Allocated Equity, Current Year = [1] / [10]	\$3,752,813	\$3,913,479	\$4,349,855	\$4,509,530	\$4,578,806	
[12] Allocated Equity, Prior Year = [2] / [10]	\$3,496,509	\$3,639,483	\$4,051,428	\$4,381,693	\$4,509,530	
[13] Average Allocated Equity = ([11] + [12])/2	\$3,624,661	\$3,776,481	\$4,200,642	\$4,445,611	\$4,544,168	
[14] Reserves as Ratio to Equity ⁽⁵⁾	1.83	1.82	1.75	1.75	1.75	
[15] Investment Yield Rates ⁽⁶⁾	3.4%	3.5%	2.5%	0.3%	2.0%	
[16] Investment Income on Reserves = [13]*[14]*[15]	\$227,012	\$237,483	\$180,909	\$19,987	\$158,846	
[17] Investment Income on Capital = [13]*[15]	\$123,979	\$130,578	\$103,498	\$11,436	\$90,883	
[18] Total Profit, Pre-Tax = [9] + [16] + [17]	\$202,207	\$916,534	\$1,276,196	\$803,491	\$806,884	\$3,803,106
[19] "Realized Profit Provision" as Pct of Premium = ([9] + [16])/[1]	2.1%	19.3%	26.9%	17.6%	15.7%	

Sources:

- (1): For 2019, 2020, 2021, 2022, Exhibit AUTO7001-AB-2022, General Insurance Statistical Agency (GISA)
For 2023, Table A 9.6 Column [9] Total
- (2): For 2020, 2021, 2022 Table A 2.4, Column [10]
For 2023, Table A9.7
- (3): For 2020, AIRB Benchmark Expense Ratio, April 2021
For 2021, AIRB Benchmark Expense Ratio, April 2022
For 2022, AIRB Benchmark Expense Ratio, April 2023
For 2023, Recommended Benchmark, Table 19, p. 82, Oliver Wyman 2023 Annual Review
- (4): Table A 9.8, Column [3], 2020 for 2020, 2021 for 2021, 2022 for 2022 and 2023
- (5): Table A 9.8, Column [12], 2020 for 2020, 2021 for 2021, 2022 for 2022 and 2023
- (6): For 2020, 2021, 2022, Table A 9.8, Column [6], 2020, 2021, 2022
For 2023, Selected by judgment to 2.0%

**B. 2011 to 2019 Pre-Tax Profit, Based on Oliver Wyman Claims Costs, Dec. 2022 Analysis,
Adjusted for 2017 Loss Development Pattern Change**

Table A 9.2: Estimated Pre-Tax Profit and Loss, 2011 through 2019
(Dollar Amounts in Thousands)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
[1] Premium Earned, Current Year ⁽¹⁾	\$2,476,448	\$2,579,374	\$2,729,239	\$2,923,180	\$3,089,322	\$3,186,081	\$3,308,497	\$3,524,505	\$3,782,861	
[2] Premium Earned, Prior Year ⁽¹⁾	\$2,446,722	\$2,476,448	\$2,579,374	\$2,729,239	\$2,923,180	\$3,089,322	\$3,186,081	\$3,308,497	\$3,524,505	
[3] Claims ⁽²⁾	\$1,653,227	\$1,939,669	\$2,093,311	\$2,287,403	\$2,513,129	\$2,581,986	\$2,544,577	\$2,699,789	\$2,775,194	
[4] Expense Ratio ⁽³⁾	24.4%	24.4%	24.4%	24.2%	25.4%	26.7%	27.8%	26.6%	26.7%	
[5] Op Expenses = [1] * [4]	\$604,253	\$629,367	\$665,934	\$707,410	\$784,688	\$850,684	\$919,762	\$937,518	\$1,010,024	
[6] TPL Premium Written ⁽¹⁾	\$1,174,169	\$1,240,429	\$1,329,347	\$1,454,717	\$1,574,988	\$1,696,689	\$1,815,070	\$1,977,271	\$2,185,482	
[7] Health Cost Recovery Pct	6.99%	6.10%	4.80%	5.00%	6.44%	5.90%	5.67%	7.04%	6.70%	
[8] Health Cost Recovery \$ = [6] * [7]	\$82,074	\$75,666	\$63,809	\$72,736	\$101,429	\$100,105	\$102,914	\$139,200	\$146,427	
[9] U/W Profit = [1] – [3] – [5] – [8]	\$136,893	-\$65,328	-\$93,815	-\$144,368	-\$309,924	-\$346,693	-\$258,756	-\$252,002	-\$148,784	
[10] Premium Leverage ⁽⁴⁾	0.94	0.96	0.94	0.92	0.93	0.93	0.93	1.02	1.01	
[11] Allocated Equity, Current Year = [1] / [10]	\$2,634,543	\$2,684,638	\$2,892,892	\$3,162,961	\$3,319,960	\$3,422,780	\$3,545,989	\$3,471,748	\$3,752,813	
[12] Allocated Equity, Prior Year = [2] / [10]	\$2,602,920	\$2,577,512	\$2,734,041	\$2,953,111	\$3,141,415	\$3,318,833	\$3,414,785	\$3,258,974	\$3,496,509	
[13] Average Allocated Equity = ([11] + [12])/2	\$2,618,731	\$2,631,075	\$2,813,467	\$3,058,036	\$3,230,687	\$3,370,806	\$3,480,387	\$3,365,361	\$3,624,661	
[14] Reserves as Ratio to Equity ⁽⁵⁾	1.81	1.89	1.87	1.69	1.82	1.81	1.81	1.83	1.83	
[15] Investment Yield Rates ⁽⁶⁾	4.0%	3.8%	3.0%	3.9%	3.3%	2.6%	3.1%	2.1%	3.4%	
[16] Investment Income on Reserves = [13]*[14] * [15]	\$191,613	\$188,312	\$158,397	\$202,211	\$196,093	\$157,660	\$197,786	\$131,701	\$227,012	
[17] Investment Income on Capital = [13]*[15]	\$105,868	\$99,863	\$84,547	\$119,622	\$107,593	\$87,195	\$109,360	\$72,110	\$123,979	
[18] Total Profit, Pre-Tax, = [9] + [16] + [17]	\$434,374	\$222,847	\$149,129	\$177,465	-\$6,238	-\$101,838	\$48,390	-\$48,190	\$202,207	\$1,078,100

Sources:

- (1): Exhibit AUTO7001-AB-2022, General Insurance Statistical Agency (GISA)
- (2): Table A 2.4, Column [10]
- (3): AIRB Benchmark Expense Ratio, April of subsequent year
- (4): Table A 9.8, Column [3]
- (5): Table A 9.8, Column [12]
- (6): Table A 9.8, Column [6]

C. 2019 to 2023 Pre-Tax Profit, for Basic Coverages (BI, PDDC, AB, UM) Based on Oliver Wyman Claims Costs, Dec. 2022 Analysis, Adjusted for 2017 Loss Development Pattern Change

Table A 9.3: Estimated Pre-Tax Profit and Loss, 2020, 2021, 2022 and Projection for 2023, Basic Coverages

(Dollar Amounts in Thousands)

	2019	2020	2021	2022	Projected 2023	Total for 2020-2023
[1] Premium Earned, Current Year ⁽¹⁾	\$2,335,454	\$2,595,334	\$2,846,969	\$2,931,073	\$2,984,899	
[2] Premium Earned, Prior Year ⁽¹⁾	\$2,136,498	\$2,335,454	\$2,595,334	\$2,846,969	\$2,931,073	
[3] Claims ⁽²⁾	\$1,795,958	\$1,326,500	\$1,291,151	\$1,487,496	\$1,739,487	
[4] Expense Ratio ⁽³⁾	26.7%	26.0%	26.0%	27.1%	27.6%	
[5] Operating Expenses = [1] * [4]	\$623,566	\$674,787	\$740,212	\$794,321	\$823,832	
[6] TPL Premium Written ⁽¹⁾	\$2,185,482	\$2,437,321	\$2,571,900	\$2,588,886	\$2,623,766	
[7] Health Cost Recovery Pct	6.70%	4.74%	2.94%	3.55%	2.86%	
[8] Health Cost Recovery \$ = [6] * [7]	\$146,427	\$115,529	\$75,614	\$91,905	\$75,040	
[9] U/W Profit = [1] – [3] – [5] – [8]	-\$230,497	\$478,518	\$739,992	\$557,351	\$346,540	
[10] Premium Leverage ⁽⁴⁾	1.01	1.04	1.00	1.00	1.00	
[11] Allocated Equity, Current Year = [1] / [10]	\$2,316,903	\$2,496,966	\$2,835,614	\$2,940,750	\$2,994,754	
[12] Allocated Equity, Prior Year = [2] / [10]	\$2,119,527	\$2,246,936	\$2,584,983	\$2,856,369	\$2,940,750	
[13] Average Allocated Equity = ([11] + [12])/2	\$2,218,215	\$2,371,951	\$2,710,299	\$2,898,560	\$2,967,752	
[14] Reserves as Ratio to Equity ⁽⁵⁾	1.83	1.82	1.75	1.75	1.75	
[15] Investment Yield Rates ⁽⁶⁾	3.4%	3.5%	2.5%	0.3%	2.0%	
[16] Investment Income on Reserves = [13]*[14]*[15]	\$138,926	\$149,159	\$116,724	\$13,032	\$103,741	
[17] Investment Income on Capital = [13]*[15]	\$75,873	\$82,014	\$66,778	\$7,456	\$59,355	
[18] Total Profit, Pre-Tax = [9] + [16] + [17]	-\$15,698	\$709,692	\$923,495	\$577,839	\$509,636	\$2,720,661
[19] "Realized Profit Provision" as Pct of Premium = ([9] + [16])/[1]	-3.9%	24.2%	30.1%	19.5%	15.1%	

Sources: For Tables 9.3 through 9.5

- (1): For 2019, 2020, 2021, 2022, Exhibit AUTO7001-AB-2022, General Insurance Statistical Agency (GISA)
For 2023, Table A 9.6 Column [9]
- (2): For 2020, 2021, 2022 Table A 2.4, Column [10]
For 2023, Table A9.7
- (3): For 2020, AIRB Benchmark Expense Ratio, April 2021
For 2021, AIRB Benchmark Expense Ratio, April 2022
For 2022, AIRB Benchmark Expense Ratio, April 2023
For 2023, Recommended Benchmark, Table 19, p. 82, Oliver Wyman 2023 Annual Review
- (4): Table A 9.8, Column [3], 2020 for 2020, 2021 for 2021, 2022 for 2022 and 2023
- (5): Table A 9.8, Column [12], 2020 for 2020, 2021 for 2021, 2022 for 2022 and 2023
- (6): For 2020, 2021, 2022, Table A 9.8, Column [6], 2020, 2021, 2022
For 2023, Selected by judgment to 2.0%

**D. 2019 to 2023 Pre-Tax Profit, for Collision Coverage Based on Oliver Wyman Claims Costs,
Dec. 2022 Analysis, Adjusted for 2017 Loss Development Pattern Change**

Table A 9.4: Estimated Pre-Tax Profit and Loss, 2020, 2021, 2022 and Projection for 2023, Collision Coverage

(Dollar Amounts in Thousands)

	2019	2020	2021	2022	Projected 2023	Total for 2020-2023
[1] Premium Earned, Current Year ⁽¹⁾	\$807,829	\$790,780	\$792,632	\$801,235	\$807,269	
[2] Premium Earned, Prior Year ⁽¹⁾	\$795,604	\$807,829	\$790,780	\$792,632	\$801,235	
[3] Claims ⁽²⁾	\$559,233	\$379,469	\$412,141	\$419,420	\$382,531	
[4] Expense Ratio ⁽³⁾	26.7%	26.0%	26.0%	27.1%	27.6%	
[5] Operating Expenses = [1] * [4]	\$215,690	\$205,603	\$206,084	\$217,135	\$222,806	
[6] TPL Premium Written ⁽¹⁾						
[7] Health Cost Recovery Pct						
[8] Health Cost Recovery \$ = [6] * [7]	\$0	\$0	\$0	\$0	\$0	
[9] U/W Profit = [1] – [3] – [5] – [8]	\$32,906	\$205,708	\$174,407	\$164,681	\$201,932	
[10] Premium Leverage ⁽⁴⁾	1.01	1.04	1.00	1.00	1.00	
[11] Allocated Equity, Current Year = [1] / [10]	\$801,412	\$760,808	\$789,471	\$803,881	\$809,935	
[12] Allocated Equity, Prior Year = [2] / [10]	\$789,284	\$777,211	\$787,626	\$795,249	\$803,881	
[13] Average Allocated Equity = ([11] + [12])/2	\$795,348	\$769,009	\$788,548	\$799,565	\$806,908	
[14] Reserves as Ratio to Equity ⁽⁵⁾	1.83	1.82	1.75	1.75	1.75	
[15] Investment Yield Rates ⁽⁶⁾	3.4%	3.5%	2.5%	0.3%	2.0%	
[16] Investment Income on Reserves = [13]*[14]*[15]	\$49,812	\$48,359	\$33,960	\$3,595	\$28,206	
[17] Investment Income on Capital = [13]*[15]	\$27,204	\$26,590	\$19,429	\$2,057	\$16,138	
[18] Total Profit, Pre-Tax = [9] + [16] + [17]	\$109,922	\$280,657	\$227,796	\$170,332	\$246,276	\$925,061
[19] "Realized Profit Provision" as Pct of Premium = ([9] + [16])/[1]	10.2%	32.1%	26.3%	21.0%	28.5%	

**E. 2019, to 2023 Pre-Tax Profit for All Other Coverage (Comp, All Perils, Specified Perils)
Based on Oliver Wyman Claims Costs, Dec. 2022 Analysis, Adjusted for 2017 Loss
Development Pattern Change**

Table A 9.5: Estimated Profit and Loss, 2020, 2021, 2022 and Projection for 2023, All Other Coverages

(Dollar Amounts in Thousands)

	2019	2020	2021	2022	Projected 2023	Total for 2020-2023
[1] Premium Earned, Current Year ⁽¹⁾	\$639,578	\$681,538	\$727,672	\$762,381	\$771,569	
[2] Premium Earned, Prior Year ⁽¹⁾	\$592,403	\$639,578	\$681,538	\$727,672	\$762,381	
[3] Claims ⁽²⁾	\$420,003	\$640,091	\$461,087	\$505,739	\$549,933	
[4] Expense Ratio ⁽³⁾	26.7%	26.0%	26.0%	27.1%	27.6%	
[5] Operating Expenses = [1] * [4]	\$170,767	\$177,200	\$189,195	\$206,605	\$212,953	
[6] TPL Premium Written ⁽¹⁾						
[7] Health Cost Recovery Pct						
[8] Health Cost Recovery \$ = [6] * [7]	\$0	\$0	\$0	\$0	\$0	
[9] U/W Profit = [1] – [3] – [5] – [8]	\$48,808	-\$135,753	\$77,390	\$50,037	\$8,683	
[10] Premium Leverage ⁽⁴⁾	1.01	1.04	1.00	1.00	1.00	
[11] Allocated Equity, Current Year = [1] / [10]	\$634,498	\$655,706	\$724,770	\$764,899	\$774,117	
[12] Allocated Equity, Prior Year = [2] / [10]	\$587,697	\$615,337	\$678,819	\$730,075	\$764,899	
[13] Average Allocated Equity = ([11] + [12])/2	\$611,097	\$635,521	\$701,795	\$747,487	\$769,508	
[14] Reserves as Ratio to Equity ⁽⁵⁾	1.83	1.82	1.75	1.75	1.75	
[15] Investment Yield Rates ⁽⁶⁾	3.4%	3.5%	2.5%	0.3%	2.0%	
[16] Investment Income on Reserves = [13]*[14]*[15]	\$38,273	\$39,965	\$30,224	\$3,361	\$26,899	
[17] Investment Income on Capital = [13]*[15]	\$20,902	\$21,974	\$17,291	\$1,923	\$15,390	
[18] Total Profit, Pre-Tax = [9] + [16] + [17]	\$107,983	-\$73,814	\$124,906	\$55,321	\$50,972	\$157,384
[19] "Realized Profit Provision" as Pct of Premium = ([9] + [16])/[1]	13.6%	-14.1%	14.8%	7.0%	4.6%	

F. Projections of Earned Premiums and Incurred Losses and LAE for 2023

Table A 9.6: Calculation of 2023 Earned Premium at the Level of Written Premium in Second Half of 2022

(Dollar Amounts in Thousands)

Coverage	[1] Accident Semester	[2] Earned Premium (000s)	[3] Earned Vehicles (000s)	[4] Average Earned Premium per Vehicle = [2] / [3]	[5] Written Premium (000s)	[6] Written Vehicles (000s)	[7] Average Written Premium per Vehicle = [5] / [6]	[8] On-Level Factor = [7] _{2022.2} / [4]	[9] Earned Premium at Level of Written Premium, 2022-2 (000s) = [2] * [8]
Third Party Liability	2022.1	\$1,266,775	1,396	\$908				1.007	\$1,275,580
	2022.2	\$1,305,377	1,446	\$903	\$1,333,064	1,458	\$914	1.013	\$1,321,805
Accident Benefits	2022.1	\$130,293	1,395	\$93				1.136	\$147,984
	2022.2	\$142,665	1,442	\$99	\$154,012	1,452	\$106	1.072	\$152,983
Un/Underinsured Motorists	2022.1	\$42,093	1,354	\$31				1.011	\$42,544
	2022.2	\$43,870	1,400	\$31	\$44,311	1,410	\$31	1.003	\$44,002
Collision	2022.1	\$395,019	1,010	\$391				1.004	\$396,667
	2022.2	\$406,216	1,046	\$389	\$416,720	1,061	\$393	1.011	\$410,602
Comprehensive	2022.1	\$359,907	1,167	\$308				1.018	\$366,245
	2022.2	\$372,197	1,194	\$312	\$383,534	1,222	\$314	1.007	\$374,917
All Perils	2022.1	\$12,468	15	\$841				0.997	\$12,431
	2022.2	\$14,988	18	\$834	\$17,997	21	\$838	1.005	\$15,063
Specified Perils	2022.1	\$1,388	12	\$113				1.055	\$1,465
	2022.2	\$1,432	12	\$117	\$1,539	13	\$119	1.011	\$1,448
Total		\$4,494,690							\$4,563,737
Basic Coverage TPL + AB + UM		\$2,931,073							\$2,984,899
Collision		\$801,235							\$807,269
All Other Comp + AP + SP		\$762,381							\$771,569

Source: Exhibit AUTO7001-AB-2022, General Insurance Statistical Agency (GISA)

Table A 9.7: Projected 2023 Claims Costs, Under Oliver Wyman Claim Cost Assumptions and CPI Trend, Adjusted for 2017 Change in Loss Development Pattern

(Dollar Amounts in Thousands)

	Bodily Injury	Property Damage	Accident Benefits	Un/Under Insured Motorist	Collision	Comprehensive	All Perils	Specified Perils	All Coverages
Base Line ⁽¹⁾	\$1,106,641	\$472,037	\$201,688	\$15,592	\$559,233	\$408,614	\$10,334	\$1,055	\$2,775,194
Growth in Number of Vehicles, 2019-2022	+2.1%	+2.1%	+2.0%	+1.3%	+0.5%	-1.6%	+42.4%	+12.5%	
Past Trend for 2019 to 2022	+13.1%	+13.1%	+13.1%	+13.1%	+13.1%	+13.1%	+13.1%	+13.1%	
Future Trend for 2022 to 2023	+1.9%	+1.9%	+1.9%	+1.9%	+1.9%	+1.9%	+1.9%	+1.9%	
Catastrophe Load						+15.9%	+15.9%	+15.9%	
“New Normal” Post-Pandemic and Bill 41 Impact ⁽²⁾	-33.5%	+14.4%	-6.6%	0%	-40.9%	0	-40.9%	0	
Claims Costs	\$865,753	\$634,272	\$221,259	\$18,202	\$382,531	\$536,738	\$11,610	\$1,585	\$2,671,951

(1): 2019 Incurred Loss and LAE, Source, Table A 2.4.

(2): Reduction for moving coverages: Table 4, Section V.B.2

G. Calculation of Ratios for Use in the Cheng Model of Profits

Table A 9.8: Ratios for the Insurance Industry Operating in Canada, from P&C Returns Filed with OSFI
(Dollar Amounts in Millions)

		[1]	[2]	[3]	[4]	[5]	[6]
		Net Written Premium	Total Equity	Premium Leverage = [1]/[2]	Net Investmt Income	Total Investmtns	Investmt Yield Rate = [4] / [5]
2011	Canadian	\$27,808	\$26,028		\$2,667	\$61,412	
	Foreign Cdn Mortgage	\$7,844	\$11,900		\$888	\$26,524	
	Total	\$35,652	\$37,928	0.94	\$3,555	\$87,936	4.0%
2012	Canadian	\$30,178	\$27,098		\$2,820	\$66,767	
	Foreign Cdn Mortgage	\$7,656	\$12,280		\$811	\$28,898	
	Total	\$37,834	\$39,378	0.96	\$3,631	\$95,665	3.8%
2013	Canadian	\$31,089	\$28,087		\$2,164	\$67,162	
	Foreign Cdn Mortgage	\$7,735 \$0	\$13,065 \$0		\$755 \$0	\$29,974 \$0	
	Total	\$38,824	\$41,152	0.94	\$2,919	\$97,136	3.0%
2014	Canadian	\$32,585	\$29,595		\$3,016	\$73,246	
	Foreign Cdn Mortgage	\$7,865 \$0	\$14,173 \$0		\$859 \$0	\$25,815 \$0	
	Total	\$40,450	\$43,768	0.92	\$3,875	\$99,061	3.9%
2015	Canadian	\$34,109	\$31,295		\$2,543	\$80,005	
	Foreign Cdn Mortgage	\$6,718 \$0	\$12,580 \$0		\$958 \$0	\$25,119 \$0	
	Total	\$40,827	\$43,875	0.93	\$3,501	\$105,124	3.3%
2016	Canadian	\$35,128	\$32,088		\$2,184	\$73,650	
	Foreign Cdn Mortgage	\$6,909 \$0	\$13,072 \$0		\$422 \$0	\$27,093 \$0	
	Total	\$42,037	\$45,160	0.93	\$2,606	\$100,743	2.6%
2017	Canadian	\$34,620	\$31,119		\$2,601	\$69,101	
	Foreign Cdn Mortgage	\$6,964 \$0	\$13,450 \$0		\$425 \$0	\$27,202 \$0	
	Total	\$41,584	\$44,569	0.93	\$3,026	\$96,303	3.1%
2018	Canadian	\$37,140	\$25,054		\$1,339	\$59,282	
	Foreign Cdn Mortgage	\$8,249 \$975	\$15,208 \$5,408		\$526 \$229	\$30,231 \$8,213	
	Total	\$46,364	\$45,670	1.02	\$2,094	\$97,726	2.1%
2019	Canadian	\$37,172	\$26,140		\$2,454	\$62,492	
	Foreign Cdn Mortgage	\$9,014 \$1,150	\$15,543 \$5,277		\$797 \$265	\$31,879 \$8,423	
	Total	\$47,336	\$46,960	1.01	\$3,516	\$102,794	3.4%
2020	Canadian	\$41,921	\$29,351		\$2,695	\$67,685	
	Foreign Cdn Mortgage	\$10,360 \$1,674	\$17,033 \$5,526		\$958 \$233	\$35,481 \$9,222	
	Total	\$53,955	\$51,910	1.04	\$3,886	\$112,388	3.5%
2021	Canadian	\$43,465	\$33,234		\$2,028	\$55,382	
	Foreign Cdn Mortgage	\$12,118 \$2,086	\$18,765 \$5,463		\$326 \$210	\$38,756 \$9,926	
	Total	\$57,669	\$57,462	1.00	\$2,564	\$104,064	2.5%
2022	Canadian	\$42,626	\$32,840		\$12	\$64,516	
	Foreign Cdn Mortgage	\$13,447 \$1,472	\$19,879 \$5,016		\$17 \$266	\$40,750 \$9,414	
	Total	\$57,545	\$57,735	1.00	\$295	\$114,680	0.3%

Source: OSFI, Financial Data for Property and Casualty Companies

<https://www.osfi-bsif.gc.ca/Eng/wt-ow/Pages/FINDAT-pc.aspx>

Note that amounts for “Canadian” insurers prior to 2018 include “Canadian Mortgage Insurers.” For consistency, the amounts for Canadian Mortgage Insurers are added to the industry total for 2018 through 2022.

Table A 9.8 (cont'd): Ratios for the Insurance Industry Operating in Canada, from P&C Returns Filed with OSFI

(Dollar Amounts in Millions)

		[7] Gross Unpaid Claims & LAE	[8] Gross Unearned Premium Reserve	[9] Ceded Unpaid Claims & LAE	[10] Ceded Unearned Premium Reserve	[11] Net Reserves = [7] + [8] - [9] - [10]	[12] Reserves/ Equity = [11]/[2]
2011	Canadian	\$41,294	\$17,529	\$7,592	\$1,208		
	Foreign	\$18,547	\$3,508	\$2,631	\$800		
	Cdn Mortgage	\$0					
	Total	\$59,841	\$21,037	\$10,223	\$2,008	\$68,647	1.81
2012	Canadian	\$44,612	\$19,237	\$8,069	\$1,732		
	Foreign	\$19,383	\$4,528	\$2,757	\$947		
	Cdn Mortgage	\$0					
	Total	\$63,995	\$23,765	\$10,826	\$2,679	\$74,255	1.89
2013	Canadian	\$47,586	\$20,624	\$9,263	\$2,384		
	Foreign	\$20,024	\$4,478	\$3,026	\$941		
	Cdn Mortgage	\$0	\$0	\$0	\$0		
	Total	\$67,610	\$25,102	\$12,289	\$3,325	\$77,098	1.87
2014	Canadian	\$49,939	\$21,876	\$10,610	\$2,690		
	Foreign	\$15,539	\$4,180	\$3,226	\$1,022		
	Cdn Mortgage	\$0	\$0	\$0	\$0		
	Total	\$65,478	\$26,056	\$13,836	\$3,712	\$73,986	1.69
2015	Canadian	\$55,298	\$23,848	\$11,579	\$3,684		
	Foreign	\$15,770	\$4,443	\$3,023	\$1,109		
	Cdn Mortgage	\$0	\$0	\$0	\$0		
	Total	\$71,068	\$28,291	\$14,602	\$4,793	\$79,964	1.82
2016	Canadian	\$58,090	\$24,574	\$15,077	\$3,590		
	Foreign	\$17,878	\$4,573	\$3,645	\$1,148		
	Cdn Mortgage	\$0	\$0	\$0	\$0		
	Total	\$75,968	\$29,147	\$18,722	\$4,738	\$81,655	1.81
2017	Canadian	\$58,646	\$25,688	\$17,103	\$4,101		
	Foreign	\$17,766	\$4,599	\$3,734	\$1,154		
	Cdn Mortgage	\$0	\$0	\$0	\$0		
	Total	\$76,412	\$30,287	\$20,837	\$5,255	\$80,607	1.81
2018	Canadian	\$56,273	\$23,361	\$14,779	\$3,782		
	Foreign	\$19,125	\$5,171	\$4,082	\$1,130		
	Cdn Mortgage	\$152	\$3,102	\$0	\$0		
	Total	\$75,550	\$31,634	\$18,861	\$4,912	\$83,411	1.83
2019	Canadian	\$57,733	\$25,220	\$16,057	\$4,679		
	Foreign	\$20,060	\$5,998	\$4,285	\$1,471		
	Cdn Mortgage	\$172	\$3,295	\$0	\$0		
	Total	\$77,965	\$34,513	\$20,342	\$6,150	\$85,986	1.83
2020	Canadian	\$64,020	\$27,188	\$18,717	\$5,070		
	Foreign	\$22,599	\$ 6,998	\$4,941	\$1,848		
	Cdn Mortgage	\$235	\$3,945	\$0	\$0		
	Total	\$86,854	\$38,131	\$23,658	\$6,918	\$94,409	1.82
2021	Canadian	\$65,786	\$28,710	\$18,604	\$5,709		
	Foreign	\$24,731	\$8,001	\$5,390	\$2,054		
	Cdn Mortgage	\$115	\$4,814	\$0	\$0		
	Total	\$90,632	\$41,525	\$23,994	\$7,763	\$100,400	1.75
2022	Canadian	\$65,854	\$30,278	\$20,348	\$6,807		
	Foreign	\$26,260	\$9,125	\$6,050	\$2,413		
	Cdn Mortgage	\$95	\$4,915	\$0	\$0		
	Total	\$92,209	\$44,318	\$26,398	\$9,220	\$100,909	1.75

Source: OSFI, Financial Data for Property and Casualty Companies

<https://www.osfi-bsif.gc.ca/Eng/wt-ow/Pages/FINDAT-pc.aspx>

Note that amounts for “Canadian” insurers prior to 2018 include “Canadian Mortgage Insurers.” For consistency, the amounts for Canadian Mortgage Insurers are added to the industry total for 2018 through 2022.

10. Realization of Profit Provision, Plus Investment Income on Capital

The table below performs the calculations, according to the “rule of thumb” cited by Oliver Wyman, for the Realized Profit Provision including investment income on capital.

Table A 10.1: Realized Profit Provision Including Investment Income on Capital, by Year from 2013 to 2022

Year	[1] Realized Profit Provision Percentage, per Oliver Wyman	[2] Ratio of Capital to Premium, by Rule of Thumb Cited by Oliver Wyman	[3] Pre-tax Rate of Investment Return on Capital	[4] Realized Profit Provision Percentage, Including Investment Income on Capital	[5] Earned Premium (000s)	[6] Realized Profit Provision, Including Investment Income on Capital, in Dollars (000s)
2013	2.50%	0.50	3.41%	4.21%	\$2,729,239	\$114,764
2014	3.00%	0.50	3.41%	4.71%	\$2,923,180	\$137,536
2015	-2.80%	0.50	3.31%	-1.15%	\$3,089,322	(\$35,373)
2016	-9.10%	0.50	2.78%	-7.71%	\$3,186,081	(\$245,647)
2017	-4.30%	0.50	3.69%	-2.46%	\$3,308,497	(\$81,224)
2018	-6.80%	0.50	2.24%	-5.68%	\$3,524,505	(\$200,192)
2019	-0.30%	0.50	4.23%	1.82%	\$3,782,861	\$68,659
2020	16.30%	0.50	4.17%	18.39%	\$4,067,651	\$747,838
2021	17.60%	0.50	2.71%	18.96%	\$4,367,273	\$827,817
2022	9.00%	0.50	0.08%	9.04%	\$4,494,690	\$406,320

Source:

[1]: Oliver Wyman 2023 Annual Review, Table 6, p. 23

[2]: Oliver Wyman 2023 Annual Review, Footnote 30, p. 22

[3]: Oliver Wyman 2023 Annual Review, Table 18, p. 81, for 2015 through 2022.

Oliver Wyman 2022 Annual Review, p. 16, Average for 2017 to 2021 (3.41%), for 2013 and 2014

[4]: [1] + [2] x [3]

[5]: Exhibit AUTO7001-AB-2022, General Insurance Statistical Agency (GISA)

[6]: [4] x [5]

11. GISA Profit/Loss Report AUTO9501-AB

In 2020 the Alberta Ministry of Treasury Board and Finance reported that the Alberta private passenger auto insurance industry sustained an after-tax loss of \$667.3 million over the years 2013 through 2018. The Ministry reported that it obtained this amount from the annual Profit and Loss report published by GISA. (On a pre-tax basis, the reported amounts show a pre-tax loss over this period of \$870.4 million.)

The analyses in this report calculate industry profit by using the same method that J.S. Cheng and Partners, Inc. (“Cheng”) used in its 2007 analysis of Alberta auto insurance reform.¹⁶ Over the 2013 to 2018 period, and using claims costs from the Oliver Wyman Dec. 2022 analysis, with adjustments to the Oliver Wyman claims costs, for the apparent change in the claims reserving process starting in 2017 the Cheng method shows a pre-tax profit of \$218.7 million over the same period.

The following outlines differences in the two results, and suggests that the calculations using Cheng’s method have the attributes of transparency and consistency, both between companies and from year to year.

a) GISA Profit/Loss Report, 2013 to 2021

The amounts for Alberta in the GISA annual Profit and Loss report¹⁷, for 2013 through 2022, broken down into the major revenue and expense items, are as in Table A 11.1 below:

¹⁶ “REPORT ON THE REVIEW of Insurance Reform – Premium and Claim Analysis by Gordon G. Smith and Theresa K. Reichert of Deloitte and Touche LLP,” J.S. Cheng and Partners, Inc., March 29, 2007

¹⁷ AUTO9501-AB

Table A 11.1: GISA Profit and Loss Report, Alberta Private Passenger Auto Insurance

(Thousands of Dollars)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
Premium and Other Revenue	\$2,685,200	\$2,985,000	\$3,032,000	\$3,097,200	\$2,848,700	\$3,225,600	\$3,262,800	\$3,691,100	\$3,829,300	\$3,898,000	
Less: Claims Costs	\$2,219,500	\$2,442,400	\$2,448,800	\$2,793,500	\$2,432,200	\$2,715,000	\$2,726,000	\$2,888,000	\$2,362,200	\$2,418,800	
Less: Expenses	\$708,800	\$751,500	\$802,100	\$866,500	\$829,400	\$860,500	\$906,600	\$983,900	\$1,101,600	\$1,122,400	
Plus: Investment Income	\$165,900	\$236,600	\$192,100	\$182,400	\$222,500	\$126,600	\$229,800	\$250,800	\$153,200	(\$56,700)	
Total Profit, Pre-Tax	-\$77,200	\$27,700	-\$26,800	-\$380,400	-\$190,400	-\$223,300	-\$140,000	\$70,000	\$518,700	\$300,100	-\$525,500
Less: Income Taxes	-\$17,700	\$27,700	-\$9,800	-\$78,500	-\$61,200	-\$63,600	-\$35,400	\$37,600	\$120,000	\$65,300	
Total Profit, After Tax	-\$59,500	\$0	-\$17,000	-\$301,900	-\$129,200	-\$159,700	-\$104,700	\$32,400	\$398,700	\$234,800	-\$401,600

b) Attributes of the GISA Profit and Loss Report

In preparing its annual Profit and Loss Report, GISA collects and aggregates financial data submitted by each licensed automobile insurer in nine jurisdictions in Canada, including Alberta.

Some of this data is taken directly from the insurer's Property and Casualty (P&C) return filed with its regulator (usually OSFI). However, other data is not reported in the P&C at the Alberta and private passenger auto level of detail. Thus, these data items must be allocated to Alberta and private passenger auto based on other individual company information.

In the Notes to Users and in the General Disclaimers published with the report, GISA advises users to be aware of the following issues. These issues bear on the consistency and reliability of the report, depending on the user's purpose.

- The reporting insurers have used their own company-specific allocation methodology, which thus may vary from insurer to insurer, and from year to year.
- The quality of the report is dependent on the accuracy of the data filed by insurers. For amounts taken directly from the P&C Return, GISA relies on the work of the insurer's internal and external auditors. However, for the data items allocated to finer levels of detail, GISA advises that no independent audit has been performed.
- Since the report was first published for 2012, GISA has advised that "the reliability of the information is expected to improve over time, as GISA fine-tunes the processes and requirements for the collection and reporting of the financial information in subsequent years." This suggests

that the processes used in the earlier years (i.e. back to 2013) may be of poorer quality, and may produce less consistent and reliable results.

- The report is based on insurers' fiscal year. Thus, the claims costs reported in a given year will combine current-year accidents and changes to prior-year accidents, combining results for accidents of several years. GISA advises that such data may also be subject to abnormal accounting activity in a particular year.
- The report is primarily on a net basis. Thus it does not report amounts ceded by the insurers to reinsurers, limiting the report's transparency regarding these amounts. GISA advises that a major insurance group was identified to have reported its reinsurance contrary to instructions. While this issue has been identified as specific to Ontario, it illustrates that issues can arise in the consistency of data reporting. Further, it is seen in Table A.11.1 that the net earned premium reported for 2017 shows a marked decrease compared to that of 2016. This was followed by a rebound in the net earned premium in 2018. This pattern is not seen in the gross earned premiums for 2016 through 2018, thus suggesting a significant yet unknown variation in reinsurance reported.

It is noted that GISA advises that its Profit and Loss Report should not be used to assess whether current rates are adequate to cover future costs.

c) Comparison of the Cheng Method to the GISA Profit and Loss Report

By contrast, Cheng's method of allocating insurer operating results to Alberta and to private passenger auto has the following attributes:

- It uses claims and premium data specific to Alberta private passenger auto for individual accident years.
- Allocations to Alberta and private passenger auto of equity, expenses and investment income are based on ratios drawn from industry-wide financial statistics, that aggregate financial amounts taken directly from insurers' P&C returns. These financial statistics have thus been subject to insurers' internal and external audit processes.
- Allocations based on these industry-wide statistics are consistent and transparent, using the same allocation method for all insurers and from year to year.

These attributes can be expected to provide a more transparent measure of industry-wide profitability than a measure based on allocation processes that are not subject to audit, that vary between insurers and that vary from one year to the next year.

12. Loss and ALAE Dollar and Count Triangles

Table A 12.1: Loss and ALAE Incurred, Bodily Injury
(in thousands)

Accident Semester	Age in Months									
	6	12	18	24	30	36	42	48	54	60
2011.01	\$125,730	\$133,891	\$133,993	\$140,110	\$153,119	\$168,234	\$183,071	\$191,723	\$203,468	\$206,782
2011.02	\$149,121	\$171,113	\$179,144	\$194,363	\$210,816	\$229,263	\$243,350	\$257,564	\$268,776	\$273,774
2012.01	\$133,650	\$161,246	\$164,395	\$177,049	\$197,651	\$213,666	\$225,539	\$233,536	\$246,873	\$254,609
2012.02	\$147,335	\$177,626	\$190,638	\$211,508	\$228,276	\$251,222	\$270,044	\$281,383	\$296,732	\$306,201
2013.01	\$122,754	\$150,964	\$162,433	\$177,339	\$197,480	\$217,747	\$238,976	\$253,470	\$266,653	\$281,920
2013.02	\$158,085	\$201,330	\$213,249	\$236,592	\$263,728	\$292,902	\$317,538	\$335,729	\$348,764	\$355,478
2014.01	\$139,295	\$170,205	\$184,617	\$203,851	\$231,400	\$251,932	\$271,379	\$286,887	\$301,751	\$305,972
2014.02	\$181,499	\$220,251	\$243,195	\$279,311	\$314,681	\$345,024	\$373,204	\$397,499	\$408,096	\$414,908
2015.01	\$157,887	\$199,168	\$213,997	\$243,680	\$279,567	\$309,808	\$333,893	\$346,601	\$354,238	\$363,291
2015.02	\$193,905	\$242,166	\$266,694	\$309,810	\$360,044	\$396,524	\$416,011	\$434,570	\$442,669	\$452,641
2016.01	\$156,971	\$197,097	\$238,040	\$275,068	\$309,202	\$335,497	\$364,451	\$383,846	\$399,780	\$411,400
2016.02	\$174,369	\$251,531	\$300,285	\$341,647	\$385,835	\$424,328	\$455,404	\$478,245	\$491,645	\$498,423
2017.01	\$169,629	\$229,155	\$267,360	\$302,718	\$347,424	\$386,855	\$418,904	\$434,059	\$442,703	\$451,282
2017.02	\$202,756	\$277,054	\$306,885	\$353,893	\$406,332	\$452,614	\$483,880	\$503,523	\$519,693	\$519,445
2018.01	\$197,315	\$242,619	\$277,037	\$323,219	\$383,966	\$422,615	\$450,453	\$477,511	\$483,309	\$505,459
2018.02	\$199,756	\$278,187	\$327,553	\$385,626	\$438,855	\$467,253	\$502,520	\$525,083	\$545,548	
2019.01	\$182,157	\$257,440	\$306,207	\$353,241	\$393,880	\$447,262	\$487,971	\$516,446		
2019.02	\$210,044	\$292,335	\$340,118	\$394,012	\$457,125	\$507,879	\$553,333			
2020.01	\$136,475	\$188,186	\$224,050	\$257,878	\$311,596	\$343,973				
2020.02	\$161,095	\$212,770	\$251,136	\$293,934	\$344,781					
2021.01	\$135,089	\$172,869	\$205,772	\$239,859						
2021.02	\$155,031	\$229,886	\$277,253							
2022.01	\$122,586	\$180,589								
2022.02	\$171,251									

Table A 12.2: Loss and ALAE Incurred, Age-to-Age Ratios, Bodily Injury

Accident Semester	Age-to-Age Interval in Months								
	6-12	12-18	18-24	24-30	30-36	36-42	42-48	48-54	54-60
2011.01	1.065	1.001	1.046	1.093	1.099	1.088	1.047	1.061	1.016
2011.02	1.147	1.047	1.085	1.085	1.088	1.061	1.058	1.044	1.019
2012.01	1.206	1.020	1.077	1.116	1.081	1.056	1.035	1.057	1.031
2012.02	1.206	1.073	1.109	1.079	1.101	1.075	1.042	1.055	1.032
2013.01	1.230	1.076	1.092	1.114	1.103	1.097	1.061	1.052	1.057
2013.02	1.274	1.059	1.109	1.115	1.111	1.084	1.057	1.039	1.019
2014.01	1.222	1.085	1.104	1.135	1.089	1.077	1.057	1.052	1.014
2014.02	1.214	1.104	1.149	1.127	1.096	1.082	1.065	1.027	1.017
2015.01	1.261	1.074	1.139	1.147	1.108	1.078	1.038	1.022	1.026
2015.02	1.249	1.101	1.162	1.162	1.101	1.049	1.045	1.019	1.023
2016.01	1.256	1.208	1.156	1.124	1.085	1.086	1.053	1.042	1.029
2016.02	1.443	1.194	1.138	1.129	1.100	1.073	1.050	1.028	1.014
2017.01	1.351	1.167	1.132	1.148	1.113	1.083	1.036	1.020	1.019
2017.02	1.366	1.108	1.153	1.148	1.114	1.069	1.041	1.032	1.000
2018.01	1.230	1.142	1.167	1.188	1.101	1.066	1.060	1.012	1.046
2018.02	1.393	1.177	1.177	1.138	1.065	1.075	1.045	1.039	
2019.01	1.413	1.189	1.154	1.115	1.136	1.091	1.058		
2019.02	1.392	1.163	1.158	1.160	1.111	1.089			
2020.01	1.379	1.191	1.151	1.208	1.104				
2020.02	1.321	1.180	1.170	1.173					
2021.01	1.280	1.190	1.166						
2021.02	1.483	1.206							
2022.01	1.473								

Table A 12.3: Loss and ALAE Paid, Bodily Injury

(in thousands)

Accident Semester	Age in Months									
	6	12	18	24	30	36	42	48	54	60
2011.01	\$4,815	\$13,610	\$10,693	\$11,350	\$18,255	\$14,458	\$15,615	\$20,446	\$16,844	\$22,319
2011.02	\$3,956	\$15,672	\$16,913	\$17,705	\$24,688	\$21,126	\$28,206	\$19,079	\$28,017	\$18,896
2012.01	\$4,521	\$16,203	\$13,275	\$16,236	\$23,439	\$22,395	\$24,328	\$20,259	\$21,092	\$21,174
2012.02	\$4,041	\$17,571	\$15,795	\$20,597	\$29,653	\$19,561	\$33,176	\$24,112	\$29,916	\$19,226
2013.01	\$3,561	\$13,057	\$14,879	\$18,060	\$23,547	\$23,836	\$27,685	\$20,724	\$22,983	\$28,733
2013.02	\$4,194	\$16,400	\$21,737	\$25,579	\$29,857	\$25,702	\$33,590	\$31,564	\$34,049	\$26,533
2014.01	\$4,387	\$18,818	\$14,593	\$20,207	\$27,386	\$25,436	\$29,366	\$27,515	\$27,325	\$26,967
2014.02	\$4,230	\$21,470	\$21,874	\$22,750	\$35,674	\$33,616	\$44,350	\$38,780	\$42,024	\$31,113
2015.01	\$4,925	\$15,404	\$15,748	\$20,288	\$31,539	\$38,538	\$31,580	\$36,596	\$29,456	\$32,829
2015.02	\$4,375	\$17,928	\$19,560	\$26,685	\$54,887	\$47,560	\$45,028	\$39,677	\$38,891	\$30,314
2016.01	\$5,487	\$15,305	\$18,536	\$30,570	\$39,768	\$38,345	\$34,468	\$44,470	\$29,115	\$33,831
2016.02	\$3,736	\$19,832	\$26,896	\$34,665	\$52,522	\$41,952	\$58,071	\$40,694	\$44,670	\$31,826
2017.01	\$5,029	\$18,097	\$19,697	\$33,279	\$40,602	\$48,755	\$44,585	\$43,793	\$32,292	\$39,257
2017.02	\$4,737	\$17,517	\$29,561	\$32,245	\$51,392	\$55,393	\$55,823	\$48,517	\$44,903	\$34,083
2018.01	\$4,677	\$17,224	\$18,438	\$31,183	\$48,753	\$51,753	\$52,623	\$45,091	\$43,943	\$42,166
2018.02	\$4,524	\$16,416	\$24,777	\$30,640	\$49,950	\$52,760	\$54,510	\$54,957	\$61,033	
2019.01	\$4,815	\$16,192	\$19,796	\$29,732	\$46,165	\$62,594	\$52,161	\$54,752		
2019.02	\$3,941	\$17,678	\$22,455	\$28,237	\$56,012	\$58,188	\$77,934			
2020.01	\$3,454	\$8,813	\$12,234	\$24,282	\$36,435	\$61,581				
2020.02	\$2,988	\$9,712	\$16,266	\$23,789	\$47,762					
2021.01	\$2,534	\$9,118	\$12,468	\$19,861						
2021.02	\$2,949	\$11,194	\$19,265							
2022.01	\$1,782	\$10,113								
2022.02	\$2,165									

Table A 12.4: Loss and ALAE Paid, Age-to-Age Ratios, Bodily Injury

Accident Semester	Age-to-Age Interval in Months								
	6-12	12-18	18-24	24-30	30-36	36-42	42-48	48-54	54-60
2011.01	2.827	0.786	1.061	1.608	0.792	1.080	1.309	0.824	1.325
2011.02	3.961	1.079	1.047	1.394	0.856	1.335	0.676	1.468	0.674
2012.01	3.584	0.819	1.223	1.444	0.955	1.086	0.833	1.041	1.004
2012.02	4.348	0.899	1.304	1.440	0.660	1.696	0.727	1.241	0.643
2013.01	3.667	1.140	1.214	1.304	1.012	1.162	0.749	1.109	1.250
2013.02	3.910	1.325	1.177	1.167	0.861	1.307	0.940	1.079	0.779
2014.01	4.289	0.775	1.385	1.355	0.929	1.155	0.937	0.993	0.987
2014.02	5.076	1.019	1.040	1.568	0.942	1.319	0.874	1.084	0.740
2015.01	3.128	1.022	1.288	1.555	1.222	0.819	1.159	0.805	1.115
2015.02	4.097	1.091	1.364	2.057	0.867	0.947	0.881	0.980	0.779
2016.01	2.789	1.211	1.649	1.301	0.964	0.899	1.290	0.655	1.162
2016.02	5.308	1.356	1.289	1.515	0.799	1.384	0.701	1.098	0.712
2017.01	3.599	1.088	1.690	1.220	1.201	0.914	0.982	0.737	1.216
2017.02	3.698	1.688	1.091	1.594	1.078	1.008	0.869	0.925	0.759
2018.01	3.682	1.071	1.691	1.563	1.062	1.017	0.857	0.975	0.960
2018.02	3.629	1.509	1.237	1.630	1.056	1.033	1.008	1.111	
2019.01	3.363	1.223	1.502	1.553	1.356	0.833	1.050		
2019.02	4.486	1.270	1.258	1.984	1.039	1.339			
2020.01	2.552	1.388	1.985	1.500	1.690				
2020.02	3.250	1.675	1.463	2.008					
2021.01	3.599	1.367	1.593						
2021.02	3.796	1.721							
2022.01	5.674								

Table A 12.5: Reported Claim Count, Bodily Injury

Accident Semester	Age in Months									
	6	12	18	24	30	36	42	48	54	60
2011.01	8,415	8,009	7,645	7,322	7,245	7,176	7,172	7,127	7,095	7,063
2011.02	8,069	8,287	7,615	7,464	7,303	7,190	7,162	7,119	7,076	7,050
2012.01	7,868	7,635	7,209	7,049	6,926	6,806	6,783	6,749	6,721	6,686
2012.02	7,970	8,650	8,249	8,119	7,958	7,884	7,884	7,842	7,793	7,795
2013.01	7,398	7,562	7,304	7,266	7,237	7,239	7,274	7,253	7,233	7,213
2013.02	8,448	9,139	8,718	8,702	8,764	8,729	8,757	8,715	8,695	8,688
2014.01	7,867	7,843	7,617	7,627	7,690	7,646	7,661	7,650	7,632	7,612
2014.02	8,605	8,989	8,714	8,801	8,940	8,930	8,941	8,909	8,878	8,862
2015.01	8,058	8,125	7,984	8,068	8,213	8,170	8,179	8,152	8,144	8,133
2015.02	7,891	8,778	8,647	8,785	8,887	8,894	8,919	8,908	8,892	8,875
2016.01	7,328	7,549	7,585	7,626	7,807	7,822	7,859	7,823	7,802	7,797
2016.02	7,737	8,825	8,741	8,887	9,111	9,133	9,171	9,160	9,134	9,115
2017.01	7,831	8,153	8,180	8,396	8,662	8,665	8,710	8,688	8,672	8,656
2017.02	7,242	8,520	8,512	8,812	9,117	9,155	9,198	9,160	9,124	9,085
2018.01	7,685	8,145	8,177	8,410	8,772	8,807	8,844	8,813	8,744	8,745
2018.02	7,054	8,263	8,241	8,596	8,915	8,906	8,939	8,882	8,856	
2019.01	7,477	8,173	8,222	8,545	8,951	9,016	9,013	8,980		
2019.02	7,135	8,323	8,448	8,897	9,230	9,190	9,218			
2020.01	5,072	5,440	5,545	5,774	5,958	5,942				
2020.02	5,266	5,857	5,898	6,056	6,196					
2021.01	4,981	5,400	5,390	5,548						
2021.02	5,733	7,127	7,146							
2022.01	4,664	5,455								
2022.02	5,520									

Table A 12.6: Closed Claim Count, Bodily Injury

Accident Semester	Age in Months									
	6	12	18	24	30	36	42	48	54	60
2011.01	1,020	3,333	4,704	5,475	6,130	6,324	6,464	6,614	6,698	6,788
2011.02	810	3,310	4,613	5,431	6,098	6,311	6,481	6,583	6,703	6,772
2012.01	855	3,046	4,316	5,087	5,739	5,935	6,103	6,250	6,331	6,416
2012.02	758	3,291	4,782	5,775	6,630	6,854	7,043	7,203	7,322	7,410
2013.01	732	2,921	4,371	5,364	6,125	6,357	6,539	6,682	6,811	6,916
2013.02	733	3,383	5,234	6,388	7,246	7,568	7,790	7,969	8,160	8,286
2014.01	806	3,366	4,772	5,673	6,441	6,693	6,912	7,094	7,242	7,333
2014.02	764	3,756	5,431	6,475	7,358	7,706	7,991	8,195	8,410	8,535
2015.01	964	3,557	5,029	5,928	6,750	7,110	7,342	7,540	7,716	7,800
2015.02	819	3,581	5,122	6,328	7,343	7,746	8,033	8,230	8,393	8,494
2016.01	896	3,058	4,597	5,575	6,384	6,737	6,993	7,208	7,327	7,436
2016.02	701	3,498	5,319	6,395	7,322	7,723	8,085	8,305	8,493	8,633
2017.01	993	3,518	5,049	6,123	7,010	7,441	7,737	7,965	8,115	8,250
2017.02	792	3,389	5,064	6,146	7,128	7,596	7,942	8,216	8,404	8,560
2018.01	959	3,296	4,737	5,784	6,766	7,219	7,574	7,835	8,040	8,222
2018.02	771	3,127	4,638	5,707	6,627	7,112	7,491	7,815	8,073	
2019.01	985	3,289	4,683	5,578	6,565	7,125	7,543	7,878		
2019.02	749	3,158	4,496	5,605	6,600	7,169	7,652			
2020.01	714	2,001	2,896	3,568	4,231	4,655				
2020.02	516	1,938	2,915	3,606	4,317					
2021.01	542	1,782	2,609	3,238						
2021.02	517	2,077	3,192							
2022.01	349	1,413								
2022.02	316									

Source: Exhibit AUTO7001-AB-2022, General Insurance Statistical Agency (GISA)